April 20, 2006

TO THE READER:

It is our pleasure to invite your examination of the 2030 Northwest Arkansas Transportation Regional Transportation Plan. We feel that this document provides a comprehensive framework of transportation guidance for the next 25 years.

Through an exceptionally genuine spirit of regional cooperation and dedication that mirrors the character of the people that live here, NARTS has defined the transportation needs of Northwest Arkansas and developed a plan to address those needs.

While we realize that these needs are great and that available funds are in short supply, it is our function and purpose to provide the safest and most efficient transportation system possible with respect to the funding we can "reasonably" expect over the next 25 years.

In doing so, important decisions and choices that will shape our area's future have to be made. These decisions are the direct result of: careful studies and planning; public input; coordination cooperation among all participating units of government; future growth and development; the history of the area; and plain common sense and hard work.

We welcome your comments and suggestions on this document and any transportation or planning issues you would like to discuss. Our doors are always open.

Sincerely,

_____	_____
Bob Crafton, Chair	Mayor Richard Long, Chair
NARTS Policy Committee	NARTS Technical Advisory Committee

NORTHWEST ARKANSAS REGIONAL TRANSPORTATION STUDY (NARTS)

The people listed on the Committees below were selected by the chief officials of each participating government or agency to represent them in the transportation planning process. **Policy Committee** members include Mayors, County Judges, and Chief Executive Officers. **Technical Advisory Committee (TAC)** members include engineers, planners, street superintendents, and others who work on the technical side of transportation facility development. Advisory members have also been included to provide additional insight in special transportation areas.

PARTICIPANTS

POLICY COMMITTEE	AGENCY	TAC
Alan Meadors	AHTD Planning & Research	Steve Mitchell
	AHTD Transit	Danny Chidester
Joe Shipman	AHTD District 4	
	AHTD District 9	Steve Lawrence
Travis Harp	Benton County	Michelle Crain
Troy Galloway	Bentonville	Brian Bahr
		Mike Churchwell
Fred Jack	Bethel Heights	Fred Jack
Thekla Wallis	Cave Springs	Thekla Wallis
Ken Williams	Centerton	Ken Williams
Bill Montgomery	Decatur	Bill Montgomery
Jack Ladyman	Elkins	Jack Ladyman
Jane Waters	Elm Springs	Craig Hull
John Harris	Farmington	John Harris
Dan Coody	Fayetteville	Paul Libertini
Gary Dumas		Tim Conklin
Kevin Santos		Ron Petrie
William Yoes	Greenland	William Yoes
Brenda Fraizer	Highfill	Brenda Fraizer
Richard Long	Johnson	Richard Long
Henry Buchanan	Lincoln	Henry Buchanan
Donna Stills	Little Flock	Donna Stills
Tony Davis	Lowell	Tony Davis
Jackie Crabtree	Pea Ridge	Jackie Crabtree
Sonny Hudson	Prairie Grove	Sonny Hudson
Steve Womack	Rogers	Steve Glass
Bob Crafton		Derrell Smith
Mark Kruger		Mike Shupe
M.L. Van Pouke	Siloam Springs	Ben Rhoads
Jerre Van Hoose	Springdale	Patsy Christie
Jim Crouch		
Philip Taldo		Sam Goade
Loretta Riley	Springtown	Loretta Riley
Paul Maestri	Tontitown	Paul Maestri
Jerry Hunton	Washington County	John Gibson
Butch Bartholomew	West Fork	Butch Bartholomew
	Ozark Transit	Phil Pumphrey
	Razorback Transit	Gary Smith
	U of A	Mike Johnson
	NWARPC	Jeff Hawkins

ADVISORY MEMBERS

(Non-Voting)

Brent McCready	ARK/MO Railroad
Scott Vanlaningham	Regional Airport Authority
Christine Kefauver	Northwest Arkansas Council
Amy Heflin	Federal Highway Administration
Perry Franklin	Fayetteville

Voting is based on 1 vote per 10,000 population up to a maximum of 3 votes per member.

Acronyms and Abbreviations

ADA	Americans with Disabilities Act of 1990
AHTD	Arkansas State Highway and Transportation Department
DOT	U. S. Department of Transportation
EIS	Environmental Impact Statement
ENH	Enhancement
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HPP	High Priority Project
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
NARTS	Northwest Arkansas Regional Transportation Study
NHS	National Highway System
NWARPC	Northwest Arkansas Regional Planning Commission
PRT	Personal Rapid Transit
ROD	Record of Decision
RTA	Regional Transit Authority
ROW	Rights of Way
STP	Surface Transportation Program
STP-U	Surface Transportation Program – Urban
TAC	Technical Advisory Committee
TEA –21	Transportation Equity Act for the 21st Century of 1998
TIP	Transportation Improvement Program
UAF	University of Arkansas – Fayetteville
UPWP	Unified Planning Work Program
VPD	Vehicles Per Day

NARTS MISSION

The mission of the Northwest Arkansas Regional Transportation Study (NARTS) is to "Develop and Maintain a Regional Transportation Plan for the Metropolitan Area".

In January 2003 the TAC recommended that the NARTS area be expanded to include the entire two-county region. The Policy Committee approved the expansion and the Governor signed the request in August 2003. Therefore, the NARTS area is truly a reflection of the region as a whole, which is rapidly urbanizing.

REGIONAL TRANSPORTATION GOAL

"Provide a comprehensive intermodal transportation system which most efficiently serves the human and economic needs of the metropolitan area and Northwest Arkansas region."

LOCAL AUTHORITY

This plan was developed to provide a regional transportation plan for Northwest Arkansas. Part of the plan includes recommendations for transportation improvements and infrastructure. Local development requirements and transportation decisions will be the responsibility of the applicable governing authority.

FEDERAL PARTICIPATION

The preparation and publication of this document was financed in part by funds provided by the United States Department of Transportation, Federal Highway Administration, and Federal Transit Administration. The provision of Federal financial assistance should not be construed as denoting U.S. Government approval of plans, policies, programs or projects contained herein.

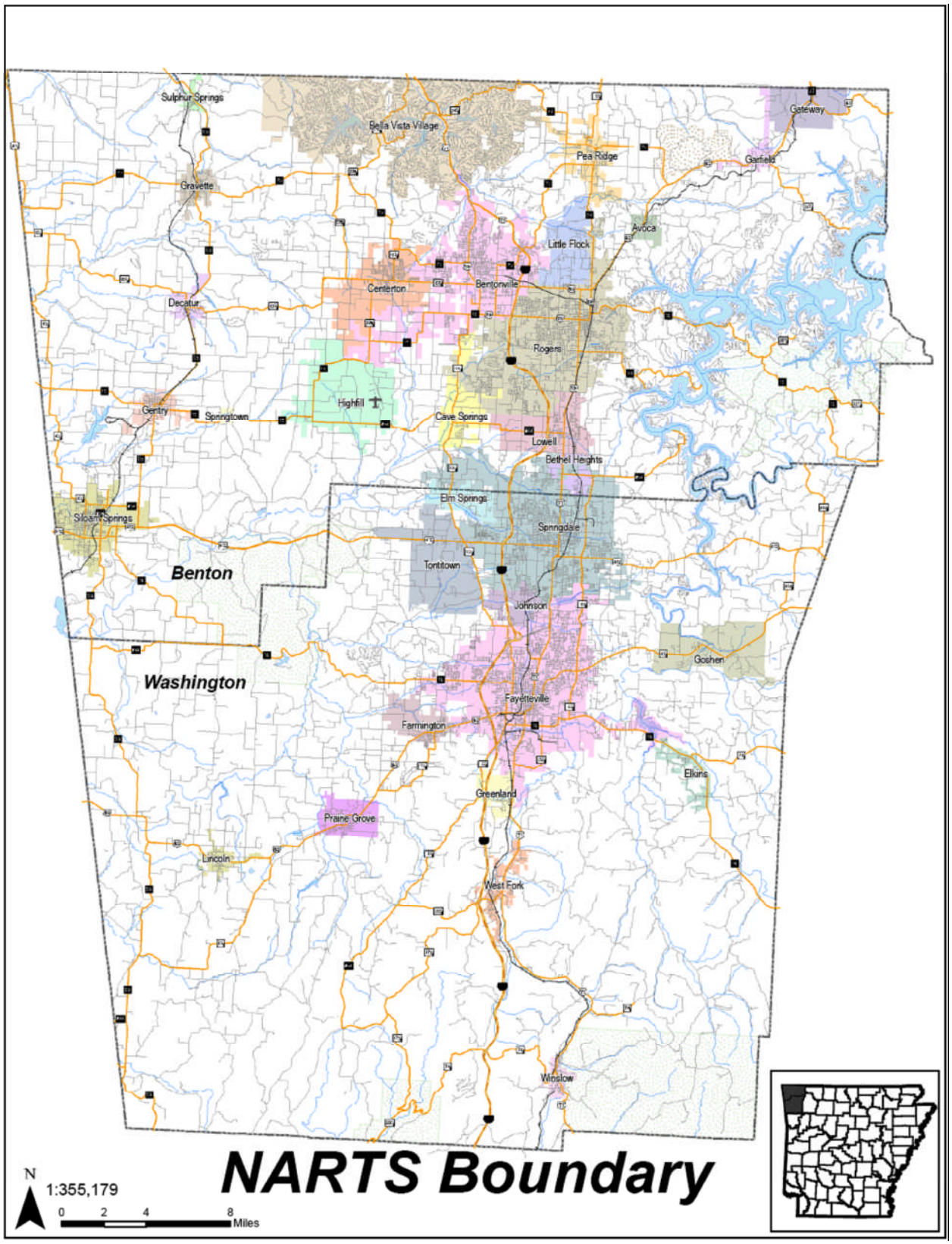

Sulphur Springs
Bella Vista Village
Gateway
Pea Ridge
Garfield
Gravette
Avoca
Little Rock
Centerton
Bentonville
Decatur
Rogers
Gentry
Springtown
Highfill
Cave Springs
Lowell
Bethel Heights
Elm Springs
Sloan Springs
Springdale
Benton
Tontitown
Johnson
Washington
Goshen
Fayetteville
Farmington
Elkins
Greenland
Prairie Grove
Lincoln
West Fork
Winslow
N
1:355,179
0 2 4 8 Miles
NARTS Boundary

TABLE OF CONTENTS

CHAPTER I INTRODUCTION

A. Transportation Planning and the Metropolitan Planning Organization

A basic planning activity of the Northwest Arkansas Regional Planning Commission (NWARPC) is its function as the Metropolitan Planning Organization (MPO). The MPO is designated by the Governor to conduct the Federally mandated 3C (comprehensive, continuing and cooperative) planning process necessary for transportation projects to qualify for Federal transportation funds. Each governmental unit and transportation agency in the NARTS Study Area can participate in transportation planning by executing a letter of agreement to participate. The participants then appoint people to represent their entity in the planning process.

The MPO has two permanent committees, the *Policy Committee* and the *Technical Advisory Committee* (TAC). The Policy Committee is the chief decision-making body for the MPO and consists of the jurisdictions' chief elected official or other top official. The TAC develops the technical aspects of plans and reports and makes recommendations to the Policy Committee. TAC members are usually people who are involved in the technical side of transportation.

Three documents are the principal NARTS products:

- The Unified Planning Work Program (UPWP)
- The Transportation Improvement Program (TIP)
- The 2030 Northwest Arkansas Transportation Plan

The UPWP outlines the MPO's annual work activities. Each year the TAC and Policy Committee reviews and approves proposed planning activities to submit to AHTD and FHWA for approval for Federal planning funds.

The TIP contains all short-term commitments for State and Federal transportation funding in the metro area. Beginning with Fiscal Year 2007 this document will cover a four-year period. *No Federal expenditures can be made on transportation facilities within the NARTS metro area unless they are listed in the TIP. The TIP is a major tool for shaping the region's transportation infrastructure.*

NARTS prepares the 2030 Northwest Arkansas Transportation Plan, with updates every five years. It is a Federal requirement that the 2030 Northwest Arkansas Transportation Plan cover at least a period of 20 years into the future. This document is in its third update, and is titled the *2030 Northwest Arkansas Regional Transportation Plan*. The Study Area for the Plan consists of Washington and Benton Counties.

In the years since the last regional transportation plan update the Northwest Arkansas region has seen a tremendous amount of growth and development,

including a burgeoning population. With that growth has come problems with congestion, access and travel times. As growth and development continues, it is clear that the current transportation system will not be sufficient to accommodate future needs. Consequently, a long range plan is necessary to effectively integrate citizen's needs and wants and the circulation system that will efficiently carry them through the region on their various trips.

In 1995, the 2020 Regional Transportation Plan was developed to address transportation planning for our region. The 2025 Regional Transportation Plan was adopted in 2000 as an update of the previous Plan. Now the 2030 Northwest Arkansas Regional Transportation Plan continues the process of addressing the need for appropriate planning to assist in the region's preparation for continued growth. The Plan functions as a framework for continued regional awareness and cooperation between the region's governments.

It is imperative that the Plan is viewed not as the end of a process, but a continuation of a process that must be on-going in its implementation. Now, more than ever, it is important for the governments of Northwest Arkansas to consider transportation issues on a regional basis, and to cooperate in meeting the demands of accelerating growth. The fact that the Plan has been developed and adopted by the NARTS Policy Committee is evidence that area governments are committed to approaching transportation challenges in Northwest Arkansas on a united front.

B. Regional Transportation History

An early road was established through Northwest Arkansas in the 1830s linking Fort Smith to points in southern Missouri and on to St. Louis. By the mid 1800s many roads crossed the growing region including the historic Butterfield Overland Coach Road that linked St. Louis and San Francisco. The Civil War brought troop movements through the area with major battles being fought at Pea Ridge and Prairie Grove. The University of Arkansas was established in 1872, further enhancing the importance of the region and increasing the need for transportation improvements.

The railways came in the later part of the 1800s bringing a new mode of transportation to the region. The railroad through the Boston Mountains was considered an engineering marvel at that time. By World War I, motorized vehicles were appearing in Northwest Arkansas creating new demand for improved roads.

In the 1930s an airport was built at the location of Fayetteville's Drake Field. During WW II, the War Training Service used this airport as a training center for pilot trainings.
By the mid 1950s Central Airlines and Skyways were flying regular flights in and out of Northwest Arkansas.

After WW II, entrepreneurial seeds were being sown that would eventually call for an improved transportation infrastructure to Northwest Arkansas. Harvey Jones, J. B. Hunt and Willis Shaw started locally based trucking firms that were destined to be among the nation's leaders. In 1963 Sam Walton established his first 5 and dime in Bentonville, Arkansas, home now to the Wal-Mart Corporation. Abundant water from Beaver Lake was now available for new populations and industry. Tyson and George's poultry operations had their beginning in the 1950s and have become economic mainstays.

These and many more locally based operations have contributed to abundant employment opportunities in the region. Employment opportunities, when combined with the natural beauty of the area and its friendly people, have brought increased population and thus the need for an ever-improving transportation infrastructure.

Two US Highways are principle links to the rest of the world. I-540 links to the north and south, and US 412 links to the east and west. Rail lines connect the region to the north and south, and US 412 to the east and the west. Rail lines connect the region to St. Louis to the north and Fort Smith to the south. The Northwest Arkansans Regional Airport located in southwestern Benton County provides improved air service to the region.

These facilities have given the region access to increased people, goods and services. The region is an emerging metropolitan area with a rich blend of agriculture, education, recreation, tourism, business and industry. Northwest Arkansas has experienced the greatest population and economic growth of any region in Arkansas during the 1990s and early 2000s.This growth puts a tremendous load on the region's transportation system. Our system, which now serves almost 400,000 people, is expected to serve nearly 700,000 people by the year 2030 if current growth trends continue. Consequently, the 2030 Regional Transportation Plan must continue to be updated appropriately and used as a long-range tool for managing the area's transportation infrastructure.

C. Transportation Planning Factors

President Clinton signed the Transportation Equity Act for the 21st Century (TEA-21) into law on June 9, 1998. This Act requires that urbanized areas develop a transportation plan that addresses these seven factors:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency.
2. Increase the safety and security of the transportation system for motorized and non-motorized users.
3. Increase the accessibility and mobility options available to people and for freight.
4. Protect and enhance the environment, promote energy conservation, and improve the quality of life.

5. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
6. Promote efficient system management and operation.
7. Emphasize the preservation of the existing transportation system.

All of these factors were considered and included in the process of developing the 2030 Northwest Arkansas Regional Transportation Plan.

D. Transportation Project Highlights from 2000 to the Present

Rogers

1. New Hope Road – 540 to 71-B (AHTD)
Widen to 5 lanes
2. Pleasant Grove Road- 540 to 71-B (Bond/Developer)
Widen to 5 lanes
3. Old Wire Road- New Hope to Pleasant Grove (Bond)
Widen to 5 lanes in front of school, widen to 3 lanes north of Hardwood, widen to two lanes south of Hardwood
4. 45th Street- New Hope to Perry (Developer)
Construct 5-lane boulevard
5. Bellview-New Hope to Perry (Developer)
Construct 5-lane boulevard

Bentonville

1. Moberly Lane
From Hwy 72 to SE 28th, two phases
2. NW 3rd Phase 2A
From Saddlebrook to Sturbridge
3. John DeShields Boulevard
From NE "J" to NE "S"
4. Bright Road
From Hwy 12 north 1 mile
5. Bristol Street
From SW 18th to SW Commerce Drive

Fayetteville

1. Highway 265 Widening
From Highway 16 to Highway 45
2. Gregg Street Widening
From Fulbright Expressway to Mud Creek
3. Shiloh Drive Widening
From Gregg Street to Steele Boulevard
4. Rupple Road extension
From Highway16 to Persimmon Street
5. Broyles Road extension
From Highway16 to Persimmon Street

Siloam Springs

1. Main Street overlay
2. S. Mt. Olive Street
From Hwy 412 W to Rains Road
3. N. Mt. Olive Street
From Elgin Street to Cheri Whitlock Drive
4. N. Dogwood Street
From W. University to Hwy 43
5. Ashley Street
From Hico Street to Lincoln Street
6. Maxwell Street
7. S. Carl Street
From Hwy 412 W to W Tulsa Street
8. E. Main Street
From Hwy 412 E to Country Club Road
9. Cheri Whitlock Parkway, new
From Mt. Olive Street to N. Carl Street
10. Progress Avenue
From Hwy 412 E to Rear of Wal-Mart

Springdale

1. N. Stultz Road
From W. Stultz Road to Pump Station Road
2. Silent Grove Road
From Wagon Wheel Road to south side of Del's Woods Subdivision
3. Silent Grove Road
From Del's Woods to the bridge
4. Gutensohn Road
From Highway 412 to Huntsville Avenue
5. Gutensohn Road
From Huntsville Avenue to Backus Avenue
6. Turner Street
From Highway 412 South to Robinhood Court
7. Electric Avenue
From Highway 265 to Butterfield Coach Road
8. Harber Avenue
From Jones Road to Highway 112
9. 48th Street
From Harber Avenue to Elm Springs Road
10. Cambridge
From Robinson Avenue to Chapman Avenue
11. Carley Road
From Sunset Avenue to Chapman Avenue
12. West End
From Sunset to Watson Avenue

CHAPTER II VISION, GOALS, PRINCIPLES, AND OBJECTIVES

In order to create a framework for a 2030 study, a vision statement was drafted and approved by the Technical Working Group and presented to the public. It should be noted that there were no limits set forth in drafting this vision. As evident in the following vision statement this region understands the rapid rate of growth and, therefore, the need for intermodal transportation solutions.

VISION

A vision was developed for the Plan to guide its development. The vision is as follows:

> ***By the year 2030, to have a regional, integrated, multi-modal transportation system that safely and efficiently moves people and goods to, through and within our urban area, and which enables Northwest Arkansas to flourish in the global marketplace.***

In order to create a plan to complement the aforementioned vision, four goals and supporting principles and objectives were adopted. The following Goals, Principles and Objectives create the groundwork for future policies to ensure that Northwest Arkansas is able to meet the demands of the transportation network in the most economical manner.

The purpose of creating these Goals, Principles and Objectives is to ensure that this plan is a "living document". The following not only provides the framework for this study, but also identifies areas, which this region shall focus on future transportation policies. The four main areas addressed by the following Goals include:

- Mobility and Accessibility,
- Transportation Safety,
- Environmental Sensitivity, and
- Protection of the Transportation Systems.

GOALS AND OBJECTIVES

Goal I: Increase transportation mobility and accessibility for both persons and freight, thus promoting the economic vitality in the region.

Principle I.1: Support an integrated system with efficient connections between transportation modes.

Objectives:

1. Minimize travel time.
2. Increase accessibility to employment for all persons in the region.
3. Increase accessibility to other major commercial, industrial, educational, medical, and recreation centers.
4. Provide for access to developing areas in the region.

Principle I.2: Enhance the movement of freight.

Objectives:

1. Promote connections between transportation modes that support efficient movement of goods and freight.
2. Encourage improvements that facilitate the efficient movement of freight and enhance regional and global competitiveness.

Goal II: Increase transportation safety for all modes of travel.

Principle II.1: Provide for safer travel for all modes of transportation, including walking, bicycling, transit and auto.

Objectives:

1. Encourage improved traffic operations, access management and other measures to minimize the number of traffic accidents.
2. Encourage the use of intelligent transportation systems that improve the emergency response to incidents.
3. Minimize accidents on primary and secondary roadways.
4. Improve safety for pedestrians, bicyclists, and other non-motorized travelers.

Goal III: Provide a transportation system that protects and enhances the environment, promotes energy conservation and improves the quality of life.

Principle III.1: Use appropriate planning and design criteria to avoid or minimize negative impacts on residential neighborhoods.

Objectives:

1. Plan a system of main roadways to minimize non-local traffic cutting through residential neighborhoods.
2. Provide for a transportation system that both serves and complements desired community development standards and land use patterns as included in local master plans.

3. Promote a transportation system that improves connections between communities.
4. Protect community and neighborhood integrity and social cohesiveness by minimizing residential and business relocations.

Principle III. 2: Minimize use of fossil fuels and vehicular operating costs while identifying improvements to the environment.

Objectives:

1. Minimize energy consumption on a system-wide basis by reducing congestion.
2. Minimize air, water, noise and visual pollution.
3. Minimize disturbances of the region's natural aesthetics and wildlife habitat.
4. Provide for needed highway and transit system enhancements.

Goal IV: Protect existing and future transportation systems through ongoing maintenance, preservation, or reconstruction.

Principle IV. 1: Encourage land development patterns that promote transportation efficiency.

Objectives:

1. Support in-fill development and the concentration of new commercial and office space activity that enhance the selection of alternative forms of transportation.
2. Identify transit corridors that allow higher density mixed-use areas to be served by public transit.
3. Encourage major facilities to locate along planned public transit lines and implements "transit friendly" strategies.
4. Encourage transit stops/stations within convenient walking distance of major concentrations of employment.

Principle IV. 2: Acquire and preserve right-of-way at the least possible cost.

Objectives:

1. Identify and protect corridors needed for future highway, transit, freight, or other transportation system requirements.
2. Support the adoption of local right-of-way corridors. Need maps, policies and ordinances to identify, acquire and protect from encroachment into public right-of-way.
3. When feasible, identify future corridors for advance right-of-way acquisition for highways, local roads, transit, bicycle and pedestrian use.

Principle IV. 3: Develop system performance standards to ensure optimum use and efficiency.

Objectives:

1. Promote policies that maximize the use of existing transportation system (i.e. new technologies, access management, and travel demand management) and explore opportunities connectivity.
2. Encourage coordination and cooperation of roadway access management rules.
3. Maintain and preserve existing highway, transit and other facilities in good condition.
4. Promote access management for arterial and collector streets.
5. Encourage local governments and private entities to implement transportation demand management techniques in order to reduce demand and provide commuter benefits.

CHAPTER III DEMOGRAPHIC FACTORS

A. Demographic Factors

Location: The Northwest Arkansas Planning Commission, as a Metropolitan Planning Organization (MPO), covers Benton and Washington counties. In 2004 the Northwest Arkansas Study Area (NARTS) was expanded from the I-540 corridor area to include the full two-county area. However, the Fayetteville- Springdale-Rogers Metropolitan Statistical Area (MSA), now includes Madison County, Arkansas and McDonald County, Missouri. For the purpose of this document, "Northwest Arkansas" will refer to the two-county study area of Benton and Washington Counties.

Population Growth: On Census day (April 1), 2000, Northwest Arkansas had a population of 311,121. The July 1, 2005 estimated population of the region, based on residential building permits, is approximately 383,795 (Fig. 3.A.1). The Northwest Arkansas regional population has continued to grow annually at a 4.4 percent growth rate from Census 2000 to mid-2005. This represents, on average, 13,843 people per year moving into Northwest Arkansas since Census 2000.

NORTHWEST ARKANSAS COMMUNITIES IN TRANSPORTATION STUDY AREA
POPULATION GROWTH STATISTICS
Population Estimate at end of 2nd Quarter, 2005

Community	CENSUS 2000 Population	POPULATION ESTIMATE July 1, 2005	Population Increase	Percent Change	Annual Percent Change
AVOCA	423	488	65	15.4%	2.9%
BELLA VISTA (CDP)	16,582	21,920	5,338	32.2%	6.1%
BENTONVILLE	19,730	30,188	10,458	53.0%	10.1%
BETHEL HEIGHTS	714	1,127	413	57.8%	11.0%
CAVE SPRINGS	1,103	1,540	437	39.6%	7.5%
CENTERTON	2,146	5,707	3,561	165.9%	31.6%
DECATUR	1,314	1,550	236	18.0%	3.4%
ELKINS	1,251	2,094	843	67.4%	12.8%
ELM SPRINGS	1,044	1,503	459	44.0%	8.4%
FARMINGTON	3,605	4,476	871	24.2%	4.6%
FAYETTEVILLE	58,047	71,734	13,687	23.6%	4.5%
GARFIELD	490	490	NR	0.0%	0.0%
GATEWAY	116	116	NR	0.0%	0.0%
GENTRY	2,165	2,610	445	20.6%	3.9%
GOSHEN	752	927	175	23.3%	4.4%
GRAVETTE	1,810	2,133	323	17.8%	3.4%
GREENLAND	907	1,178	271	29.9%	5.7%
HIGHFILL	379	400	21	5.5%	1.1%
JOHNSON	2,319	3,226	907	39.1%	7.4%
LINCOLN	1,752	2,000	248	14.2%	2.7%
LITTLE FLOCK	2,585	3,170	585	22.6%	4.3%
LOWELL*	5,013	6,860	1,847	36.8%	7.0%
PEA RIDGE	2,346	3,525	1,179	50.3%	9.6%
PRAIRIE GROVE	2,540	3,234	694	27.3%	5.2%
ROGERS*	38,829	48,316	9,487	24.4%	4.7%
SILOAM SPRINGS	10,843	13,655	2,812	25.9%	4.9%
SPRINGDALE	45,798	63,866	18,068	39.5%	7.5%
SPRINGTOWN	114	114	NR	0.0%	0.0%
SULPHUR SPRINGS	671	683	12	1.8%	0.3%
TONTITOWN*	942	1,812	870	92.4%	17.6%
WEST FORK	2,042	2,287	245	12.0%	2.3%
WINSLOW	399	399	NR	0.0%	0.0%
BENTON COUNTY	153,406	191,397	37,991	24.8%	4.7%
WASHINGTON COUNTY	157,715	192,398	34,683	22.0%	4.2%
TWO COUNTY AREA	311,121	383,795	72,674	23.4%	4.4%

NR = No Permits Reported
*Cities that had official U.S. Census Annexation Adjustments effective Jan. 1, 2005
Source: U.S. Census and NWARPC

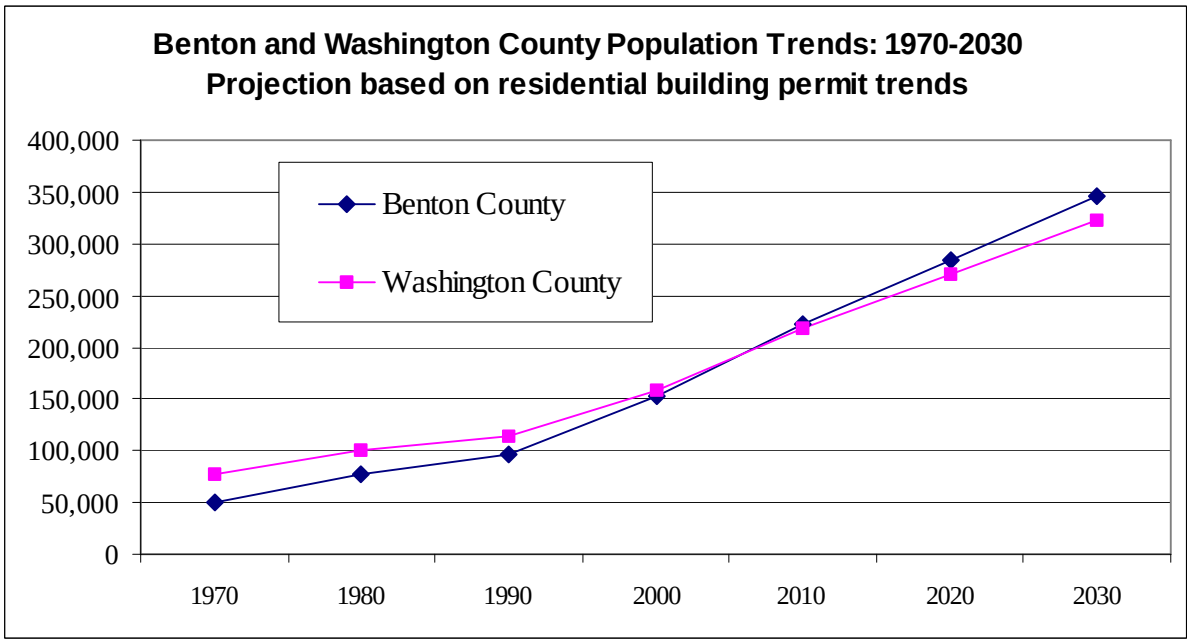
Figure 3.A.1

Population Projections: The Northwest Arkansas Regional Planning Commission, based on the 1990 and 2000 Census and subsequent residential building permit information, projects a population of 667,216 for the two-county area in the year 2030 (Fig. 3.A.2).

Population Trends and Projections for Northwest Arkansas

YEAR	1970	1980	1990	2000	2010	2020	2030
Benton County	50,476	78,115	97,499	153,406	222,183	283,756	345,328
Washington County	77,370	100,494	113,409	157,715	218,296	270,091	321,887
Region	127,846	178,609	210,908	311,121	440,479	553,847	667,216

Source: Figures from 1950 to 2000 are from the U.S. Census;
Projections based on building permit trends compiled by NWARPC to July 1, 2005



Source: U.S. Census and Northwest Arkansas Regional Planning Commission

Figure 3.A.2

The University of Arkansas State Census Data Center, which also does population projections for counties in Arkansas, projects a Northwest Arkansas population of 659,113 in the year 2030 (Fig.3.A.3). This is approximately 8,000 less than the Northwest Arkansas Regional Planning Commission projection. Although these two-county total figures are fairly close, the individual county projections differ by a wider margin. The Arkansas Census Data Center projects the Benton County population to be 372,831 and Washington County population to be 286,281. These differences are most likely due to the different methodologies used to calculate the projected outcomes. The NWARPC uses a simple trend based on U.S. Census figures and residential building permits. The U of A uses a cohort component method that takes into consideration births, deaths and migration as reflected in the equation:

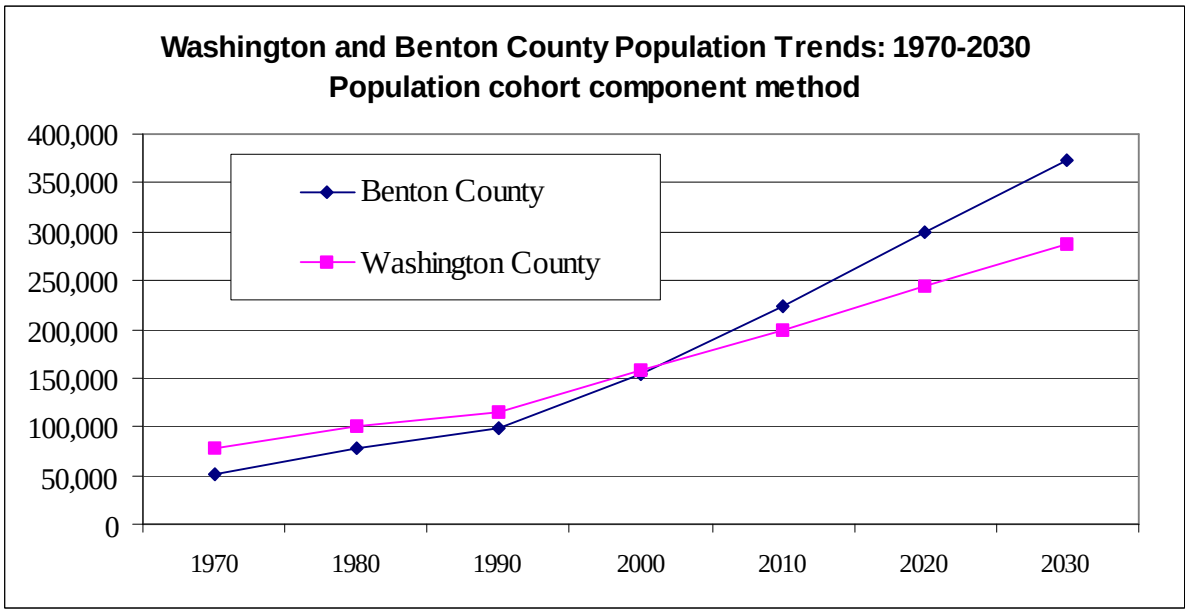
$$Pt = Pb + (Births – Deaths) + (Immigrants – Out migrants)$$

In a growing region due to immigration, the residential building permits can give a good indication of population growth in shorter-term projections. However, with the possibility that immigration may become less important in the future, the cohort component method and other extrapolation formulas should be considered. Given the difficulty of predicting future population growth it is useful to rely on more than one projection method to make forecasts and compare outcomes.

These differences in county projections will need to be analyzed further, especially in regards to how they will be incorporated into the travel demand forecasts.

Population Trends and Projections for Northwest Arkansas

YEAR	1970	1980	1990	2000	2010	2020	2030
Benton County	50,476	78,115	98,524	154,821	224,312	298,572	372,831
Washington County	77,370	100,494	114,325	158,650	199,970	243,126	286,281
Region	127,846	178,609	212,849	313,471	424,282	541,697	659,113



Source: Arkansas Census State Data Center at UALR

Figure 3.A.3

City Population Projections: The estimated and projected populations out to 2030 is shown in Figure 3.A.4 for all the cities in the two-county region based on building permit trends since 1990. This breakdown of growth projections highlights the dramatic growth in many jurisdictions such as Springdale, which could grow 87 percent to 119,482 by 2030, or Centerton, which could grow 150 percent to 14,259. These population projections will be useful to city planning departments as well as for regional planning. These projections will be used for forecasting traffic conditions in the travel demand computer model.

POPULATION ESTIMATE AND PROJECTION of INCORPORATED AREAS IN NARTS

Based Upon Dwelling Units added to End of June, 2005

Prepared by Northwest Arkansas Regional Planning Commission

This POPULATION ESTIMATE is based on the population per dwelling unit ratio from Census 2000. CENSUS DATA is from the latest 10 Year Census reported by the U. S. Bureau of the Census. Rural data is not updated because neither county issues building permits or reports building activity.

CITY/COUNTY	CENSUS 1990 Population	CENSUS 2000 Population	Added Since 1990	POPULATION ESTIMATE Population	Average Pop. Increase per year 1990 to 2005	5 YEAR Population Projection 2010	10 YEAR Population Projection 2015	15 YEAR Population Projection 2020	20YEAR Population Projection 2025	25YEAR Population Projection 2030	Population Differnce 2005-2030	Percent Difference 2005-2030
AVOCA	269	423	219	488	14	560	632	704	776	848	360	73.7%
BELLA VISTA (CDP)	9,083	16,582	12,837	21,920	842	26,128	30,337	34,546	38,754	42,963	21,044	96.0%
BENTONVILLE	11,257	19,730	18,931	30,188	1,241	36,394	42,601	48,808	55,015	61,221	31,034	102.8%
BETHEL HEIGHTS	281	714	846	1,127	55	1,404	1,682	1,959	2,237	2,514	1,387	123.1%
CAVE SPRINGS	465	1,103	1,075	1,540	71	1,893	2,245	2,598	2,950	3,303	1,763	114.4%
CENTERTON	491	2,146	5,216	5,707	342	7,418	9,128	10,838	12,549	14,259	8,551	149.8%
DECATUR	918	1,314	632	1,550	41	1,757	1,964	2,171	2,378	2,585	1,036	66.8%
ELKINS	692	1,251	1,402	2,094	92	2,553	3,013	3,473	3,932	4,392	2,298	109.8%
ELM SPRINGS	893	1,044	609	1,503	40	1,702	1,902	2,102	2,302	2,502	999	66.5%
FARMINGTON	1,322	3,605	3,154	4,476	207	5,511	6,545	7,579	8,613	9,648	5,171	115.5%
FAYETTEVILLE	42,099	58,047	29,635	71,734	1,943	81,451	91,167	100,884	110,600	120,317	48,582	67.7%
GARFIELD	308	490	182	490	12	550	609	669	729	788	298	60.9%
GATEWAY	65	116	51	116	3	133	149	166	183	200	84	72.1%
GENTRY	1,726	2,165	884	2,610	58	2,899	3,189	3,479	3,769	4,058	1,449	55.5%
GOSHEN	589	752	338	927	22	1,037	1,148	1,259	1,369	1,480	554	59.7%
GRAVETTE	1,412	1,810	721	2,133	47	2,370	2,606	2,842	3,079	3,315	1,182	55.4%
GREENLAND	757	907	421	1,178	28	1,316	1,455	1,593	1,731	1,869	691	58.6%
HIGHFILL	84	379	316	400	21	503	607	710	814	917	517	129.5%
JOHNSON	599	2,319	2,627	3,226	172	4,087	4,948	5,809	6,670	7,531	4,306	133.5%
LINCOLN	1,460	1,752	540	2,000	35	2,177	2,354	2,531	2,708	2,885	885	44.3%
LITTLE FLOCK	944	2,585	2,226	3,170	146	3,900	4,629	5,359	6,089	6,819	3,649	115.1%
LOWELL	1,224	5,013	5,636	6,860	370	8,708	10,555	12,403	14,251	16,099	9,239	134.7%
PEA RIDGE	1,620	2,346	1,905	3,525	125	4,150	4,775	5,399	6,024	6,649	3,123	88.6%
PRAIRIE GROVE	1,761	2,540	1,473	3,234	97	3,717	4,200	4,683	5,166	5,649	2,415	74.7%
ROGERS	24,692	38,829	23,624	48,316	1,549	56,062	63,808	71,554	79,299	87,045	38,729	80.2%
SILOAM SPRINGS	8,151	10,843	5,504	13,655	361	15,459	17,263	19,068	20,872	22,677	9,022	66.1%
SPRINGDALE	29,941	45,798	33,925	63,866	2,225	74,990	86,113	97,236	108,359	119,482	55,615	87.1%
SPRINGTOWN	N/A	114	114	114	7	151	189	226	264	301	187	163.9%
SULPHUR SPRINGS	523	671	160	683	10	735	788	840	893	945	262	38.4%
TONTITOWN	460	942	1,352	1,812	89	2,256	2,699	3,142	3,586	4,029	2,217	122.3%
WEST FORK	1,607	2,042	680	2,287	45	2,510	2,733	2,956	3,179	3,402	1,115	48.7%
WINSLOW	342	399	57	399	4	418	436	455	474	492	93	23.4%

Notes: Growth Estimates are adjusted for latest Census and building permit data but not for births, deaths or migration

Bella Vista, although not an incorporated city, is a Census Designated Place (CDP).

Source: U.S. Census and NWARPC

Table 3.A.4

Employment Trends: Given the fact that most jobs require commuting, employment trends are important in helping to predict transportation needs into the future. Employment predictions and commuting patterns are a major part of travel demand modeling. Figure 3.A.5 shows how the region's labor force has grown in the past decade and how the unemployment rate has stayed consistently low. Such a low unemployment rate may have been a major factor in attracting population into Northwest Arkansas. Figure 3.A.6 presents estimates of projected employment numbers by job categories. The Arkansas Department of Workforce Services predicts that the number of jobs will increase in the Fayetteville-Springdale-Rogers MSA from a 2002 estimate of 237,443 to 293,075, or an increase of 55,632 by the year 2012. The large majority of this, 48,059, will take place in the services providing sector.

Past Employment Trends in the Fayetteville-Springdale-Rogers MSA

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Labor Force	150,850	154,900	156,425	157,850	162,550	176,425	182,725	192,650	198,300	207,100
Employment	147,075	150,350	151,600	153,000	158,550	171,325	177,225	186,300	191,050	199,575
Unemployment	3,775	4,550	4,825	4,850	4,000	5,100	5,500	6,350	7,250	7,525
Unemployment Rate	2.5	3.0	3.1	3.1	2.5	2.9	3	3.3	3.7	3.6

Source: Arkansas Department of Workforce Services

Figure 3.A.5

Projected Employment Trends in the Fayetteville-Springdale-Rogers Metropolitan Statistical Area

Industry	Time Frame	Estimated Employment	Projected Employment	Numberic Change	Percent Change
Total Employment, All Jobs	2002-2012	237,443	293,075	55,632	23.4
Self-Employed and Unpaid Family Workers,	2002-2012	14,166	15,476	1,310	9.2
Goods-Producing	2002-2012	62,798	69,061	6,263	10
Natural Resources and Mining	2002-2012	10,856	10,855	-1	0
Services-Providing	2002-2012	160,479	208,538	48,059	29.9
Trade, Transportation, and Utilities	2002-2012	49,473	61,335	11,862	24
Financial Activities	2002-2012	8,307	11,474	3,167	38.1
Professional and Business Services	2002-2012	27,092	37,863	10,771	39.8
Education and Health Services	2002-2012	38,908	52,145	13,237	34
Leisure and Hospitality	2002-2012	17,841	23,539	5,698	31.9
Agriculture, Forestry, Fishing and Hunting	2002-2012	10,664	10,670	6	0.1
Crop Production	2002-2012	5,040	4,741	-299	-5.9
Animal Production	2002-2012	5,444	5,762	318	5.8
Forestry and Logging	2002-2012	80	98	18	22.5
Support Activities for Agriculture and	2002-2012	100	69	-31	-31
Mining	2002-2012	192	185	-7	-3.6

Source: Arkansas Department of Workforce Services

Figure 3.A.6

Immigration Trends: Northwest Arkansas, as can be seen with Figure 3.A.7, has experienced a rapid increase in Hispanic population. Between 1990 and 2000 the region grew by 47.5 percent while the Hispanic population grew from 2,885 to 26,401, or by 815.1 percent. From this it can be seen that the Hispanic population has increased at a faster rate than the general population.

Hispanic Growth in Northwest Arkansas: 1990 to 2000

Geographic Location	1990 Total	1990 Hispanic	2000 Total	2000 Hispanic	Total difference	Hispanic difference	Total % change	Hispanic % Change	1990 Percent of Total	2000 Percent of Total
AVOCA	269	0	423	26	154	26	57.2%	---	0.0%	6.1%
BELLA VISTA (CDP)	9,083	21	16,582	168	7,499	147	82.6%	700.0%	0.2%	1.0%
BENTONVILLE	11,257	131	19,730	1,198	8,473	1,067	75.3%	814.5%	1.2%	6.1%
BETHEL HEIGHTS	281	8	714	24	433	16	154.1%	200.0%	2.8%	3.4%
CAVE SPRINGS	465	10	1,103	24	638	14	137.2%	140.0%	2.2%	2.2%
CENTERTON	491	0	2,146	87	1,655	87	337.1%	---	0.0%	4.1%
DECATUR	918	6	1,314	217	396	211	43.1%	3516.7%	0.7%	16.5%
ELKINS	692	18	1,251	15	559	-3	80.8%	-16.7%	2.6%	1.2%
ELM SPRINGS	893	19	1,044	45	151	26	16.9%	136.8%	2.1%	4.3%
FARMINGTON	1,322	12	3,605	79	2,283	67	172.7%	558.3%	0.9%	2.2%
FAYETTEVILLE	42,099	614	58,047	2,821	15,948	2,207	37.9%	359.4%	1.5%	4.9%
GARFIELD	308	1	490	7	182	6	59.1%	600.0%	0.3%	1.4%
GATEWAY	65	0	116	0	51	0	78.5%	---	0.0%	0.0%
GENTRY	1,726	26	2,165	121	439	95	25.4%	365.4%	1.5%	5.6%
GOSHEN	589	0	752	6	163	6	27.7%	---	0.0%	0.8%
GRAVETTE	1,412	14	1,810	53	398	39	28.2%	278.6%	1.0%	2.9%
GREENLAND	757	3	907	20	150	17	19.8%	566.7%	0.4%	2.2%
HIGHFILL	84	0	379	4	295	4	351.2%	---	0.0%	1.1%
JOHNSON	599	11	2,319	74	1,720	63	287.1%	572.7%	1.8%	3.2%
LINCOLN	1,460	28	1,752	89	292	61	20.0%	217.9%	1.9%	5.1%
LITTLE FLOCK	944	19	2,585	413	1,641	394	173.8%	2073.7%	2.0%	16.0%
LOWELL	1,224	48	5,013	448	3,789	400	309.6%	833.3%	3.9%	8.9%
PEA RIDGE	1,620	18	2,346	24	726	6	44.8%	33.3%	1.1%	1.0%
PRAIRIE GROVE	1,761	12	2,540	52	779	40	44.2%	333.3%	0.7%	2.0%
ROGERS	24,692	438	38,829	7,490	14,137	7,052	57.3%	1610.0%	1.8%	19.3%
SILOAM SPRINGS	8,151	295	10,843	1,518	2,692	1,223	33.0%	414.6%	3.6%	14.0%
SPRINGDALE	29,988	454	45,798	9,005	15,810	8,551	52.7%	1883.5%	1.5%	19.7%
SPRINGTOWN	Unincorp.	0	114	10	---	10	---	---	---	8.8%
SULPHUR SPRINGS	523	2	671	112	148	110	28.3%	5500.0%	0.4%	16.7%
TONTITOWN	460	13	942	21	482	8	104.8%	61.5%	2.8%	2.2%
WEST FORK	1,628	18	2,042	64	414	46	25.4%	255.6%	1.1%	3.1%
WINSLOW	342	15	399	3	57	-12	16.7%	-80.0%	4.4%	0.8%
Benton County (All Cities)	63,973	1,037	107,373	11,944	43,400	10,907	67.8%	1051.8%	1.6%	11.1%
Washington County (All Cities)	82,130	1,204	120,456	12,273	38,326	11,069	46.7%	919.4%	1.5%	10.2%
Benton County Total	97,499	1,359	153,406	13,469	55,907	12,110	57.3%	891.1%	1.4%	8.8%
Washington County Total	113,409	1,526	157,715	12,932	44,306	11,406	39.1%	747.4%	1.3%	8.2%
NWA Regional Total	210,908	2,885	311,121	26,401	100,213	23,516	47.5%	815.1%	1.4%	8.5%
Arkansas	2,350,624	19,876	2,673,400	86,866	322,776	66,990	13.7%	337.0%	0.8%	3.2%

Source: U.S. Census Bureau, Census 2000. Table prepared by Northwest Arkansas Regional Planning Commission

Figure 3.A.7

U.S. Census estimates indicate that this trend continues. Since Census 2000 the U.S. Census estimates that Northwest Arkansas's Hispanic population reached 40,846 by July 1, 2004, as seen in Figure 3.A.8.

Growing Hispanic and other immigrant groups, such as the Marshallese Island population, must be considered in the development of the area's transportation needs. Interviews and surveys suggest that these immigrant groups are more accustomed to using public transit and might use transit if it were more readily available in Northwest Arkansas.

Population Estimates
U.S. Census Estimates, July 1 Series

Year	2000	2001	2002	2003	2004
Hispanic Origin	26,565	29,794	33,112	37,278	40,846
Total Population Estimate	313,471	321,877	330,879	342,028	353,833
Percent of Total	8.5%	9.3%	10.0%	10.9%	11.5%

Figure 3.A.8

Vehicle Trends in Northwest Arkansas: In Figures 3.A.9 and 3.A.10 it can be seen that the number of housing units with one vehicle available has grown from 26,281 to 39,269. However, the number of housing units with two vehicles grew from 34,933 to 52,802, or by 17,869. While the number of housing units increased by 46.1 percent, the number of two-vehicle housing units grew by 51.15 percent. This increase might be due to several factors including increased affluence, increase in housing units with two members working, and the unavailability of transportation alternatives.

Occupied Housing Units by Number of Vehicles Available, 1990

County	Total Occupied Housing Units	Number of Vehicles Available				Percent Without a Vehicle
		None	1	2	3 or More	
Benton	37,555	1,842	11,605	16,847	7,261	4.9
Washington	43,372	2,470	14,676	18,086	8,140	5.7
Regional Total	80,927	4,312	26,281	34,933	15,401	5.3%

Source: U.S. Bureau of the Census, Summary Tape File-3A, 1990 Census of Population and Housing

Figure 3.A.9

Occupied Housing Units by Number of Vehicles Available, 2000

County	Total Occupied Housing Units	Number of Vehicles Available				Percent Without a Vehicle
		None	1	2	3 or More	
Benton	58,212	3,657	18,026	27,502	10,171	6.3%
Washington	60,151	3,423	21,243	25,300	12,386	5.7%
Region	118,363	7,080	39,269	52,802	22,557	6.0%

Source: Census 2000 Summary File 3

Figure 3.A.10

Figure 3.A.11 shows that in Northwest Arkansas motor vehicle registrations from 2000 to 2004 grew from 296,791 to 350,247. The percentage of automobile registration in Northwest Arkansas as a part of the State has steadily increased over the years. In 2004 Northwest Arkansas registered 12.5 percent of Arkansas vehicles.

These vehicle registration tables underscore the fact that this region has had considerable growth and will require more transportation infrastructure to meet growing demand.

Motor Vehicle Registrations by County and Year

	1990	1992	1994	1996	1998	2000	2002	2004
Arkansas	1,981,323	2,027,576	2,162,185	2,266,999	2,527,984	2,606,852	2,685,388	2,810,529
Benton County	100,785	99,980	111,649	122,522	139,221	150,387	164,098	180,557
Washington County	96,824	103,006	112,454	123,789	138,074	146,404	155,613	169,690
Regional Total	197,609	202,986	224,103	246,311	277,295	296,791	319,711	350,247
Percent NWA to State	10.0%	10.0%	10.4%	10.9%	11.0%	11.4%	11.9%	12.5%

Source: Arkansas State Highway Department, Division of Planning and Research, Motor Vehicle Registration By County and Year

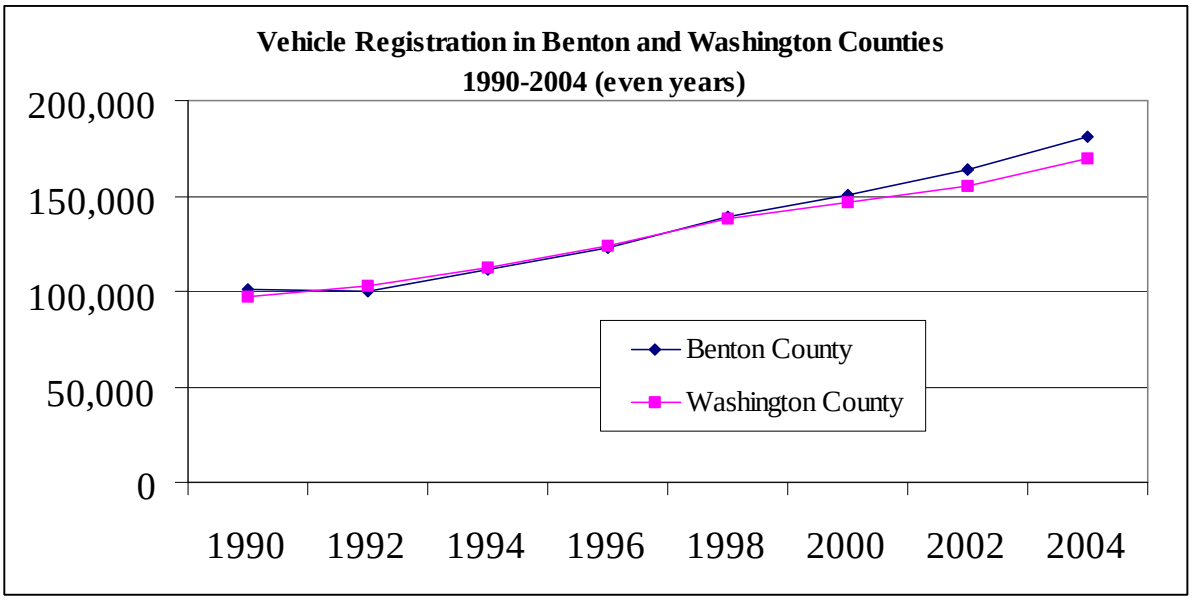
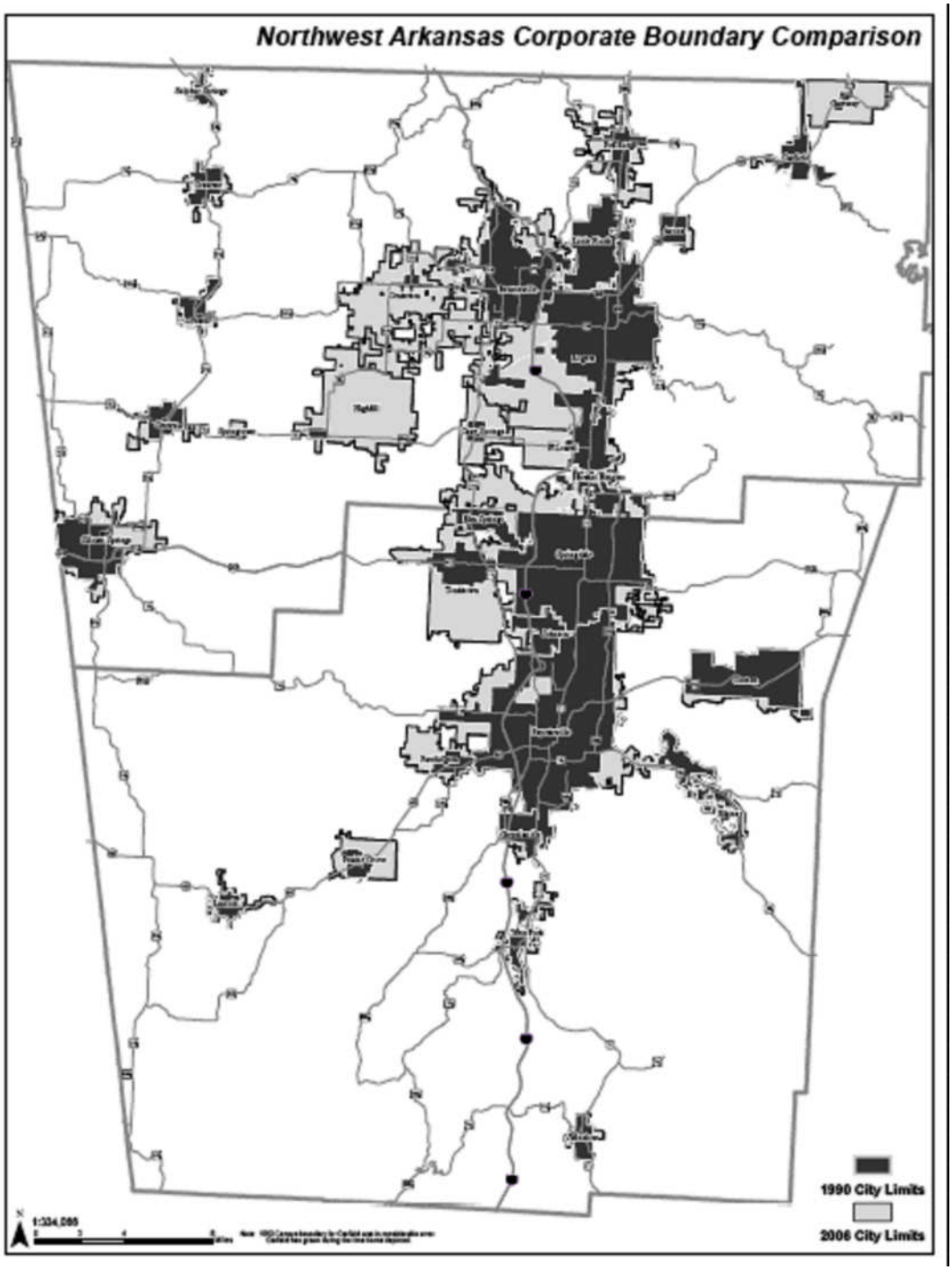


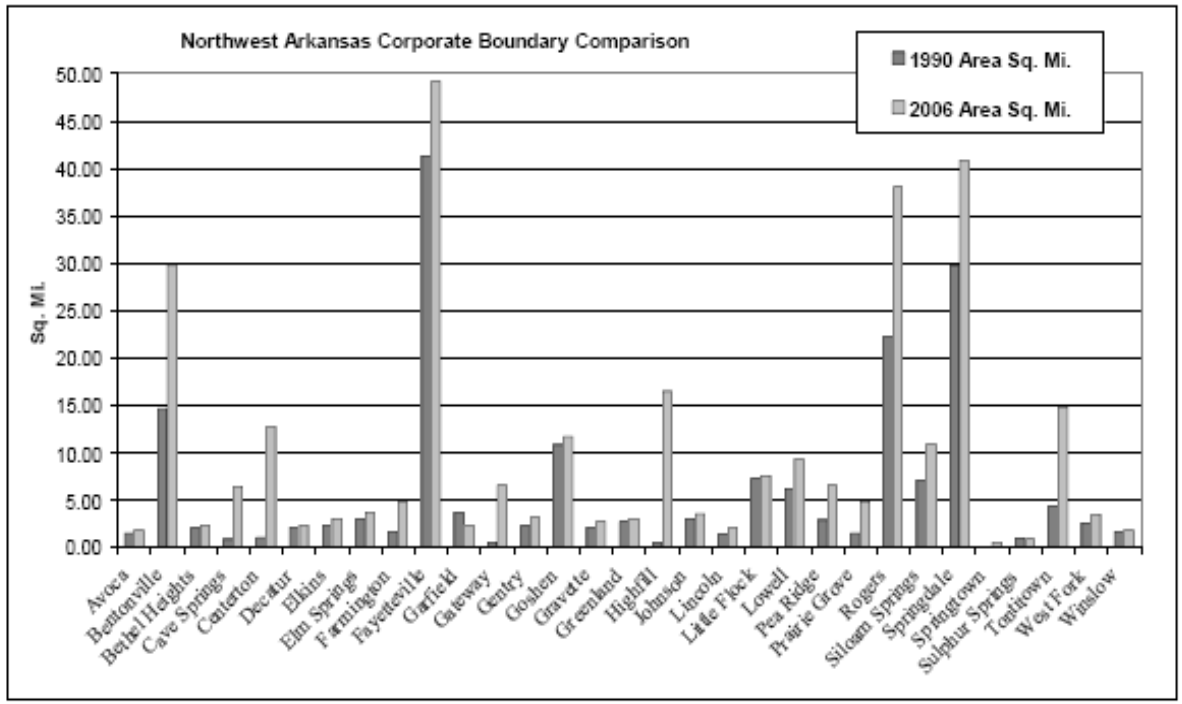
Figure 3.A.11

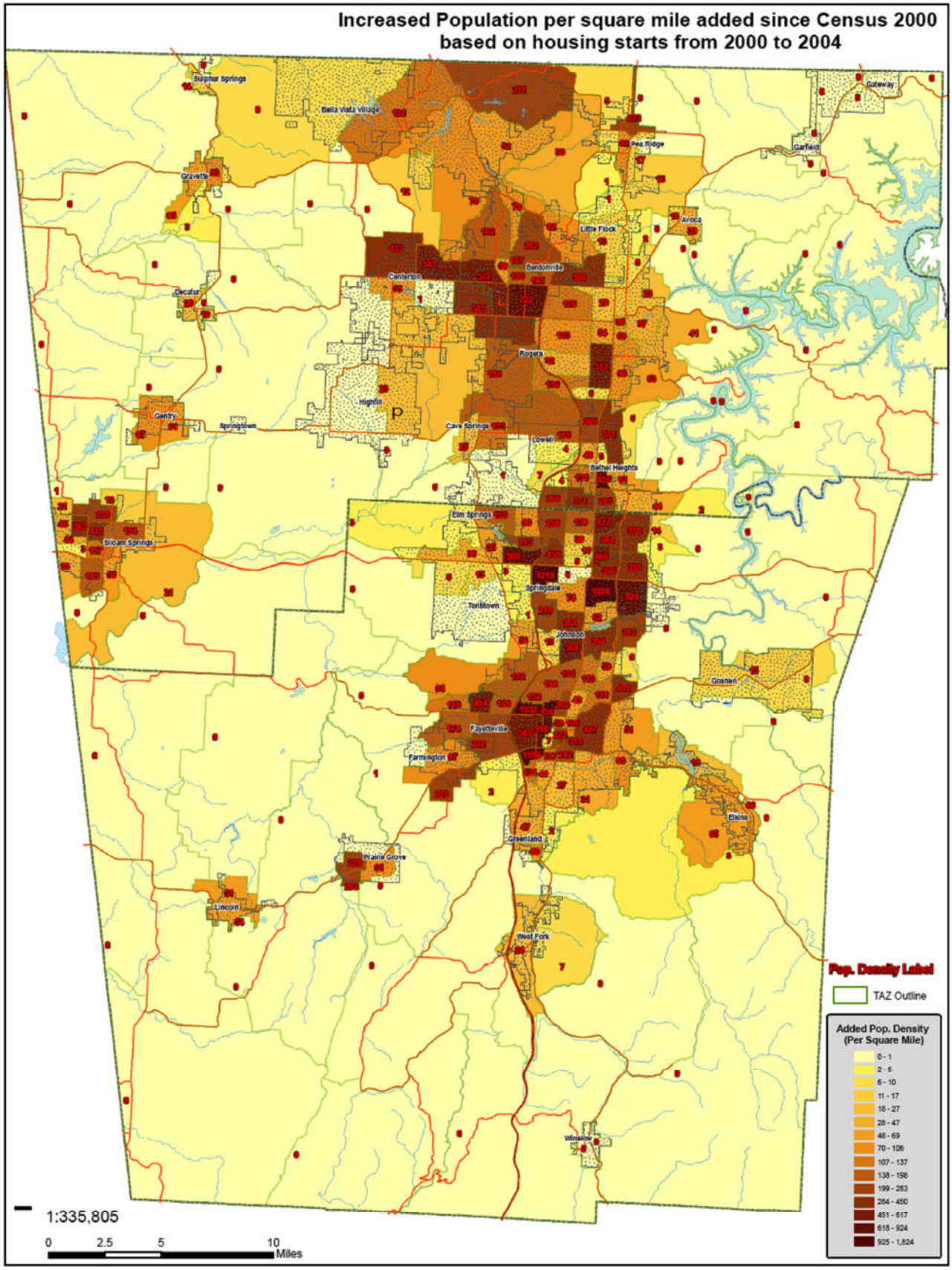
Map of Northwest Arkansas City Boundary Changes: This boundary change map shows the growth of the incorporated areas from 1990 to 2006. It can be seen that a large portion of the two-county area is being incorporated into city boundaries. It also can be seen that a relatively larger portion of Benton County rural area has been annexed over the same time period than in Washington County.



Change in Incorporated City Boundary Areas 1990 to 2006

City	1990 Area Sq. Mi.	2006 Area Sq. Mi.
Avoca	1.55	1.84
Bentonville	14.67	29.83
Bethel Heights	2.02	2.37
Cave Springs	0.86	6.49
Centerton	1.06	12.76
Decatur	2.17	2.33
Elkins	2.38	3.07
Elm Springs	3.01	3.77
Farmington	1.72	4.84
Fayetteville	41.29	49.14
Garfield	3.67	2.45
Gateway	0.57	6.53
Gentry	2.26	3.24
Goshen	10.81	11.74
Gravette	2.09	2.80
Greenland	2.74	3.05
Highfill	0.49	16.52
Johnson	3.06	3.60
Lincoln	1.47	2.10
Little Flock	7.26	7.60
Lowell	6.21	9.27
Pea Ridge	2.96	6.56
Prairie Grove	1.51	4.92
Rogers	22.27	38.05
Siloam Springs	7.05	10.98
Springdale	29.66	40.81
Springtown	0.00	0.55
Sulphur Springs	1.01	0.95
Tontitown	4.48	14.67
West Fork	2.64	3.49
Winslow	1.70	1.83




Increased Population per square mile added since Census 2000
based on housing starts from 2000 to 2004
Sulphur Springs
Bella Vista Village
Gateway
Pea Ridge
Garfield
Gravette
Avoca
Little Flock
Bentonville
Centerton
Decatur
Rogers
Highfill
Gentry
Springtown
Cave Springs
Lowell
Bethel Heights
Elm Springs
Bloom Springs
Springdale
Tontitown
Johnson
Goshen
Fayetteville
Farmington
Elkins
Greenland
Prairie Grove
Lincoln
West Fork
Winslow
Pop. Density Label
TAZ Outline
Added Pop. Density
(Per Square Mile)
0 - 1
2 - 5
6 - 10
11 - 17
18 - 27
28 - 47
48 - 69
70 - 106
107 - 137
138 - 196
199 - 283
284 - 450
451 - 617
618 - 924
925 - 1,824
1:335,805
0 2.5 5 10
Miles

Summary of Demographic Factors: From the population information and the map presentations we can clearly see two major trends. First, we see that population in Northwest Arkansas has increased at a rapid rate. For over 25 years the region sustained the highest population growth rate of any two-county region in Arkansas. Population projections through the year 2030 are based upon the region's demonstrated growth from 1990 through 2005. There are a number of factors, such as a move of major employers, which could very possibly prevent a repeat of the exceptional growth that took place in the past. However, regional governments and institutions must be prepared for the possibility of even more growth in the future. Should the rate of growth significantly change, new projections will reflect these changes.

Secondly, from our building permit figures translated to a population density map we can see that there is a significant western movement in the two-county area. We can also see in the city boundary change map that cities such as Bentonville, Centerton, Highfill, Springdale, Fayetteville and Tontitown are annexing land to the west. With these annexations and development of water and sewer capacity in these areas we can expect the western movement of population to continue.

This rapid growth of population and the movement of population to the west challenges local finances, infrastructure facilities, and environments. The region will need to meet these challenges by implementing conventional road improvements such as a potential western beltway. However, future growth will also require a more convenient and efficient transportation system through the development of alternate modes of transportation and the use of new developments in Intelligent Transportation System technologies (ITS).

CHAPTER IV ENVIRONMENTAL FACTORS

A. Natural Environmental Factors

The natural environment has become increasingly important in transportation planning processes. Reviews are often required for major transportation projects in order to ensure that impacts on wildlife habitats and natural resources would be mitigated as much as possible. The Northwest Arkansas region faces typical environmental challenges such as soil erosion during road construction. However, due to the area's somewhat unique karst geology as part of the Ozark Plateau and steep terrain in some areas, the region faces additional environmental challenges. There is also a need to protect the habitats of unique species such as the threatened Ozark Cavefish (*Amblyopsis rosae)* and to protect ground-water recharge areas. Important environmental factors to consider for transportation planning purposes include expanding urban land area, the widening and building of new roadways, and the choosing of travel modes.

Expanding urban land area. Cities across the US are expanding in land area, frequently without comparable increases in population. Suburbs tend to be lower density than older core areas, allocating larger parcels to single family housing and other types of development. Meanwhile, core areas are often ignored for redevelopment initiatives, putting more pressure on pristine lands on the fringe of the community. These trends have several significant effects on the environment.

Environmental Factor	Impact
Air quality	Expanding the urban area destroys trees and plants that contribute to clean air; the requisite roadways that come with new development on the fringe of a community create increased vehicular traffic that diminishes air quality. Northwest Arkansas is an air-quality attainment area and, therefore, not currently subject to more stringent regulations. This could change as traffic congestion increases in the region.
Water quality	Expanding the urban area increases non-point source pollution. Stormwater runoff from roads and parking lots into the storm sewer systems also adds to water pollution.
Runoff at construction sites	Construction sites create runoff fields that are exacerbated once pavement for roads, parking lots, and driveways are installed. Downstream flooding and erosion can result. Areas of Northwest Arkansas that have steep slopes are particularly susceptible to runoff and erosion problems.
Wildlife habitats	New development destroys wildlife habitats and running grounds for animals, and disrupts potentially delicate ecosystems. In particular, Northwest Arkansas hosts threatened and endangered species such as the Grey Bat (*Myotis grisescens)*, the Indiana Grey Bat (*Myotis sodali*), the Cave Crayfish *(Cambarus aculabrum and C. zophanastes),* and the bald Eagle (*Haliaeetus leucocephalus).*
Natural resource consumption	As seen in the city limits boundary change map, rural areas in Northwest Arkansas are being annexed by incorporated cities. Prime farmland is lost as the urbanized area grows. More traffic from these outlying areas increases consumption of petroleum, which is a non-renewable resource.
Abandoning development in the core of the community	Northwest Arkansas has seen, generally, a western movement of development, especially in the Fayetteville, Bentonville, and Centerton areas. A trend of developing on the urban fringe removes rich soils from production, destroys natural landscapes, and wastes development opportunities that can be found in already-affected core urban lands.
Increasing reliance on automobile	In the past, much of the development In Northwest Arkansas took place along the I-540 corridor. However, in recent years much more growth is taking place further west and away from the downtown centers of Fayetteville, Springdale, Rogers, and Bentonville. Development away from the downtown areas creates greater reliance on personal vehicles because public transit often cannot reach outlying areas. This contributes to increased petroleum consumption and diminished air and water quality from emissions and runoff.

Figure 3.B.1 Environmental impacts of expanding urban land area
Partial Source of table information: Champaign County Regional Planning Commission.

Widening/building new roadways. Approving new development, especially in fringe areas, precipitates the construction of new roadways. Roadway widening can occur in any area, usually as a means to relieve congestion on existing roadways. Both methods of improving the transportation system can have detrimental effects on the natural environment.

Environmental Factor	Impact
Air quality	Studies have shown that adding lanes or adding more roadways to a transportation system can increase the number of vehicles on the roadway, a phenomenon called induced traffic. This increased vehicular traffic directly increases contamination levels in the air from fuel emissions. Although Northwest Arkansas is an air-quality attainment area now, increased traffic congestion could change this status within the twenty-five year planning horizon.
Water quality	In Northwest Arkansas, water quality is a growing concern. According to the EPA, "roads, highways, and bridges are a source of significant contributions of pollutants to our nation's waters. Contaminants from vehicles and activities associated with road and highway construction and maintenance are washed from roads and roadsides when it rains or snow melts. A large amount of this runoff pollution is carried directly to water bodies". (http://www.epa.gov/OWOW/NPS/roads.html)
Runoff	Paving new roadways creates non-porous surfaces that increase runoff and can create drainage issues on adjacent lands. In the past ten-year period Northwest Arkansas has experienced a major conversion of porous to non-porous surfaces due to buildings, roads, and parking lots.
Erosion	Natural erosion usually occurs gradually because vegetation protects the ground. When land is cleared or disturbed to build a road or bridge, however, the rate of erosion increases. The vegetation is removed and the soil is left exposed, to be quickly washed away in the next rain. Erosion around bridge structures, road pavements, and drainage ditches can damage and weaken these structures. (http://www.epa.gov/OWOW/NPS/roads.html)
Wildlife habitats	Constructing new roadways or widening roadways can destroy wildlife habitats; create dangerous crossing points for animals, and separate delicate ecosystems. Transportation projects must consider the environmental consequences of construction. In Northwest Arkansas the environmental impact on transportation projects on cave, stream, wetland and other wildlife habitats should be considered.
Natural resource consumption	The induced traffic phenomena puts more vehicles on the road as we construct more roadways or widen existing roadways; this increases consumption of petroleum, which is a non-renewable resource. Road construction also destroys nutrients and drainage capabilities of soil under and adjacent to new roads.
Visual/Noise Pollution	Roadway construction creates temporary visual and noise pollution during construction, permanent visual pollution due to the removal of natural landscapes, and permanent noise pollution due to traffic generated by the road.

Figure 3.B.2 Environmental impacts of widening/building new roadways
Partial Source of table information: Champaign County Regional Planning Commission.

Choosing a travel mode. Different road-based travel modes have different impacts on the environment. The cleanest travel mode would be walking, followed by bicycling, public transit, carpooling, and driving alone. The significance of these environmental impacts due to transportation projects is great; how we counterbalance them through transportation planning processes should be equally as significant.

Environmental Factor	**Impact**
Air quality	Choosing to take public transit, walk, or bicycle instead of driving a car reduces the number of vehicles on the roadway, thus reducing air pollution from emissions. Similarly, choosing to carpool instead of driving alone will improve air quality. Currently, Northwest Arkansas has no government sponsored carpooling programs.
Water quality	Decreasing the number of vehicles on the roadway will decrease the amount of pollutants that can run off into local waterways.
Natural resource consumption	Decreasing the number of vehicles on the roadway will decrease fuel consumption, and create less demand for new roadways, thus diminishing negative effects on soil and other natural resources.
Visual/noise pollution	Choosing to walk or bicycle greatly diminishes visual and noise pollution in the community. Public transit is quieter and less visually disruptive when considering the volume of cars versus the volume of buses on our roadways.

Figure 3.B.3 Environmental impacts of choosing a travel mode
Partial Source of table information: Champaign County Regional Planning Commission.

To date, in the Northwest Arkansas Region area, the trend has been toward developing on the fringe, building more new roadways or widening existing ones, and choosing to drive alone rather than elect other travel modes. These actions are working against preserving the environment, and in addition are creating a less-mobile, less accessible transportation system. Unless we plan now to mitigate these negative impacts, we will be providing a poorer quality of life for future generations.

Possible mitigation measures. Best planning practices suggest numerous ways to mitigate negative environmental impacts.

- *Focus on redeveloping core areas rather than creating new development in fringe areas of the community*. This option increases public transit options, makes best use of existing infrastructure, preserves agricultural and natural areas, reduces service costs to local governments and provides choices in transportation mode rather than necessitating use of the automobile.
  - This is beginning to happen in the downtowns of some cities in the region especially Fayetteville.
- *Study alternative transportation modes for implementation locally*. Implementing travel modes such as a high capacity transit system and creating safe environments for commuter bicycle travel are among those options that can reduce environmental pollution.

  - Bus transit is being expanded in the region and initiatives are occurring to study the long-range feasibility of light rail.
- *Increase travel mobility with measures other than road widening and new road construction.* Mobility can be increased through traffic signal coordination, improving intersection geometries, traveling on roads other than the major arterials, decreasing distance between work and home, and taking advantage of other travel modes.
  - All the major cities in Northwest Arkansas utilize signal coordination.
  - Springdale, Fayetteville, and other major cities have been developing apartments and other higher density developments, some close to work destinations.
  - Fayetteville and other cities have developed and continue to improve pedestrian and bicycle trail networks.
- *Create incentives/disincentives for developers.* Currently, it is easier and more profitable to develop in fringe areas than to redevelop in the existing urban core. Changes in local and regional government policy and requirements would help create a more environmentally friendly community that provides numerous transportation choices.
  - Fayetteville and Bentonville enacted development impact fees.
- *Revise local zoning and land use ordinances.* Local zoning and land use ordinances could do more to encourage more compact and transit friendly development patterns. By revising these ordinances, the community can develop in a more sustainable manner.
- *Educate the community about travel options, the environment, and how their decisions affect how the community develops.* The majority of the region's residents choose to drive alone to work and avoid other available transportation modes. These actions are directly affecting the environment and how the community develops. By educating the public, and showing them that things can be done differently, they will learn that they can have a healthier community.
  - Ozark Regional Transit has a public information program.
  - The urbanized area governments have instituted a public education and outreach program through the University of Arkansas Cooperative Extension as part of the EPA Phase II Stormwater Management program.
- *Funding*. Focus more funding on maintaining existing facilities rather than adding to the roadway system. Further, this can bring more balance to funding for various transportation modes rather than focusing almost exclusively on roadway projects for automobiles. The limitation here is twofold: there is never enough funding for the transportation system, and the funding that is available focuses more on roadway projects than any other type of transportation project.
  - Funding for trails and transit have increased in the region over the past five years.

- *Existing plans and ordinances.* As previously mentioned, existing codes and ordinances could be improved to more positively impact the environment in terms of transportation and land use. Allowing higher population densities and more incentives for redevelopment and disincentives to development on the fringe would encourage development that would improve the environment and the quality of life in the community.
    - High-rise development is taking place in downtown areas with the use of Tax Increment Financing and other developer incentives.
- *Resistance to change.* Change begins when residents and decision makers decide to prioritize differently. It is possible to develop more responsibly while maintaining our local infrastructure and community needs. Education initiatives show people what their options are, how things can improve, and what the costs and benefits would involve. The limitation occurs when people accept the status quo for lack of more information or because they fear change.
    - A growing portion of the Northwest Arkansas population has experienced living in other cities in different environments. This population may be more willing to accept development patterns that require less infrastructure or more environmental protection measures.

The Regional Transportation Plan is one method by which we can begin to outline the changes that need to be made to our transportation system and our decision making processes; however, it is only a first step. Implementing the goals and objectives within the plan is where we can make changes that improve not only the environment, but also our general quality of life here in the Northwest Arkansas Region area.

B. Historic and Cultural Environmental Factors

Northwest Arkansas, as can be seen in Chapter I, Section B on Regional Transportation History, is rich in both historic and cultural factors. Transportation plans must take these historic and cultural factors into consideration as roadways are aligned or widened.

Historic and cultural environmental factors of Northwest Arkansas include the Cherokee Trail of Tears, the Civil War trails and the Old Missouri Road/Old Wire Road/Butterfield Coach Trail. Historic buildings, battlefield sites, archeological sites, and cemeteries are additional examples of historic and cultural factors. It is important that these factors be considered when road alignments, the type of roadways, and the scale of roadways are chosen. For example, a limited access boulevard with a greenway median may be more appropriate than a five-lane highway through a historic-scenic area. If appropriate, a scenic byway designation might be considered.

CHAPTER V THE PLANNING PROCESS

A. Technical Advisory Committee (TAC) Involvement in the Planning Process

The Northwest Arkansas Regional Transportation Plan is a 25-year vision for the region. This Plan guides transportation development through the year 2030. Projects in the Plan must be cost-feasible, meaning the region must have available funding sources to pay for the improvements. With a list of needed improvements that is four times greater than available funds, the development of the 2030 Northwest Arkansas Regional Transportation Plan requires local elected officials and transportation experts to make difficult decisions that will have a tremendous impact on the future of Northwest Arkansas. Because of the importance and magnitude of the Plan, its development incorporates extensive technical analysis, cost feasibility studies, stakeholder input, policy debate and public involvement.

Whereas the 2030 Northwest Arkansas Regional Transportation Plan provides the general framework, the "Constrained List" actually lists projects in ranked order. This list is updated periodically and determines the sequence in which projects will receive funding. The Constrained List consists of projects that can reasonably be expected to be funded with Federal-Aid funds during the Plan period. This is determined by estimates of Federal-Aid funds that can reasonably be expected to come to the area given the area's highway network, population, etc. These estimates are provided by the Arkansas Highway and Transportation Department and are not limits, nor are they guarantees of funding. They are conservative reasonable estimates of future funding to guide development of the Plan. Priorities are based on criteria, such as traffic volumes, available funding and regional equity. The established priority order allows local governments to plan for the funding and implementation of projects in their respective jurisdictions.

The Technical Advisory Committee (TAC) is made up of technical staff and some elected officials of the region's cities and counties. The TAC was engaged in the development of the 2030 Northwest Arkansas Transportation Plan – meeting in advance of community outreach sessions to approve the information shared, attending the community outreach sessions to hear the issues and concerns of the citizens first hand and finally meeting after the community meetings to make technical recommendations, which reflect the input of the meeting participants. The TAC Transportation Plan Work Group began meeting in November of 2004 and wrapped up in April of 2006.

For a detailed description of meeting activities see Appendix A, TAC Involvement in the Planning Process.

B. Public Involvement

The Northwest Arkansas Regional Planning Commission (NWARPC) has established a proactive community involvement process in the planning of regional transportation projects. It is imperative that citizens of this region provide input as to how our transportation system will evolve over the same time period.

The 2030 Northwest Arkansas Transportation Plan will be used as a means of identifying areas of need and developing a means of addressing these areas as it relates to transportation. Input to the 2030 Northwest Arkansas Transportation Plan was requested from various groups including transportation professionals, private organizations, citizen groups, local special interests, and the general public.

Community Involvement Plan Summary

Continual community involvement in the creation of this 2030 Northwest Arkansas Transportation Plan was imperative. Keeping the communication flowing in a bi-directional manner was intentional when the Community Involvement Plan (CIP) was created.

Three major milestones were identified in the CIP, which provided opportunity for public comment and therefore refinement of the plan prior to final adoption, and they are:

- Plan Kick-off – Community Involvement Plan, Transportation Needs Questionnaire, Vision, and Goals and Objectives

- Plan Development – Existing and future conditions development, Scenario development and evaluation

- Plan Approval – Ultimate adoption of the 2030 Northwest Arkansas Regional Transportation Plan by the members of the Metropolitan Planning Organization

In addition to reaching out to the public at-large, the existing professional knowledge base was maximized by taking advantage of local staff and elected officials.

Plan updates were provided to members of the Technical Advisory Committee (TAC) and the Policy Committee of the Metropolitan Planning Organization (MPO).

In addition to the existing MPO standing committees, two specialized committees were formed to work specifically on the 2030 Northwest Arkansas Transportation Plan:

- The TAC Transportation Plan Work Group and
- The Community Outreach Subcommittee.

Community Outreach

A number of public relations tools were used to communicate with the public, provide information on the progress of the Plan, and generate public input into the Plan in an effort to develop consensus and direction. The following tools focus on notifications and communications:

- Direct Mailings
- Newspaper articles and advertisements
- Web-site
- Email broadcasting
- Interactive public workshops
- Community meetings and
- One-on-one meetings

The Community Outreach Subcommittee relied mainly on print media and television coverage to inform the public of the process and ask for their involvement.

The Community Outreach Subcommittee used the four milestones listed previously to reach out to the general population of Northwest Arkansas. The first three of the four public input sessions were held each in Benton and Washington Counties and the final session was held at the offices of the Northwest Arkansas Regional Planning Commission, due it's central location in the region. Notice for the meetings were published through advertisement with the local newspapers and press releases were developed and distributed to all local media outlets, which attracted great interest for the plan. In addition, attempts were made to notify via postal correspondence attendees of previous meetings of the next meeting. In all, over 500 people attended the public input meetings.

In addition, one-on-one meetings/briefings were held with local elected and appointed officials to obtain information regarding the vision of each community and goals for obtaining said visions. These meetings included taking a map to each of the elected officials and asking for their input on projects which they would like to see developed in the Plan.

Some of the regional major investment projects (like the western beltway) were advanced by elected officials with a specific vision for the region. In addition, other elected officials suggested that projects which benefit the region as a whole should have a higher priority than projects that had only local benefit.

Additional Outreach Efforts/Public Input Sessions

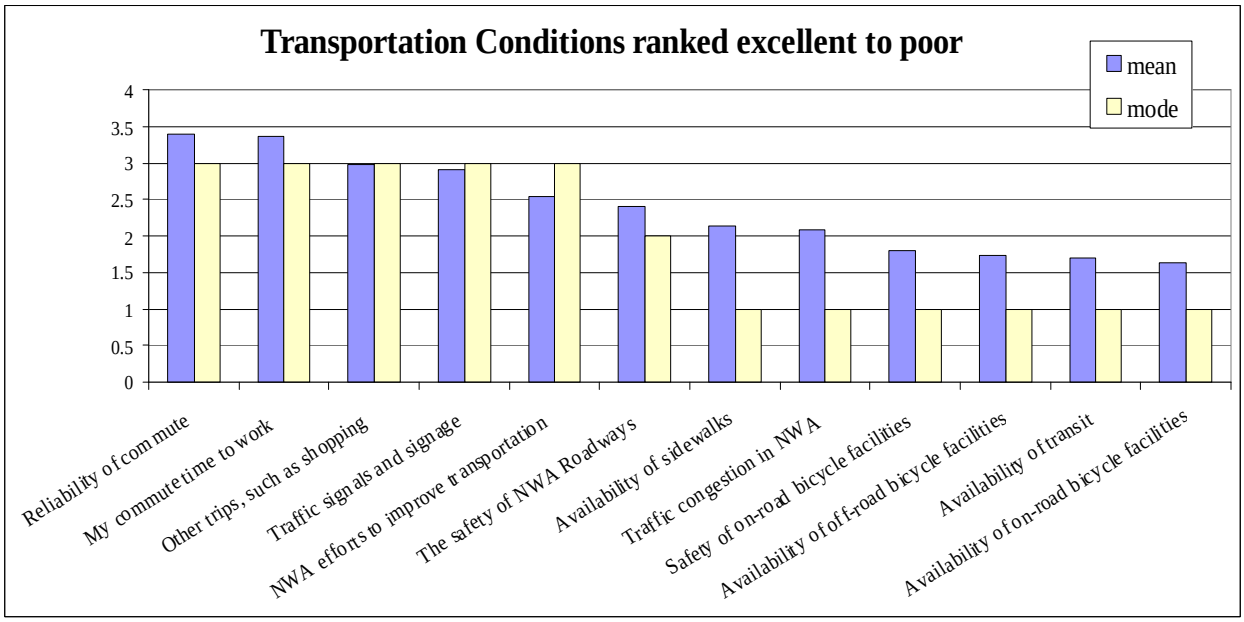
As detailed in the previous sections, the NWARPC took great efforts to increase the educational level to the citizens of the region as it pertains to transportation planning processes and implementation. As indicated earlier, it was critical that

the communication regarding this plan was "two-way" – the citizens and community leaders also needed to "educate" those developing the 2030 Northwest Arkansas Transportation Plan.

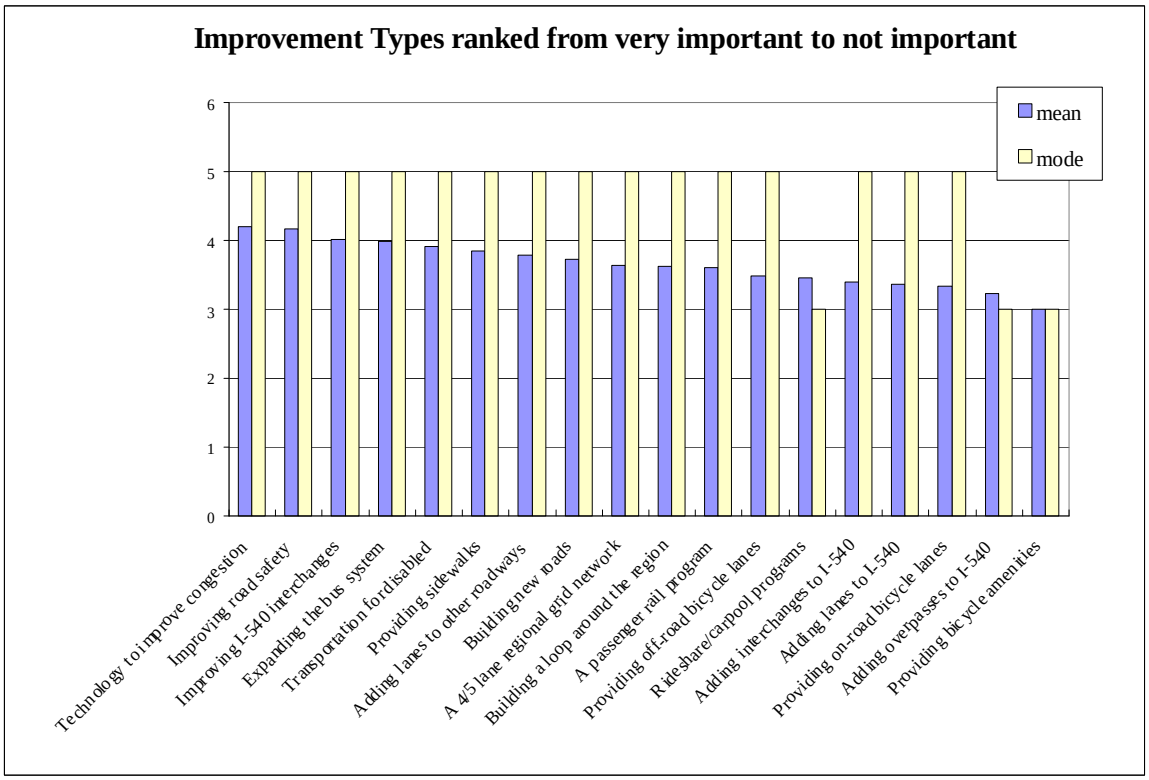
There were four series of community input sessions held throughout the study process. All meetings pertaining to the first three sessions were held from 11:00 am – 2:00 pm and 4:00 pm – 7:00 pm in both Benton and Washington Counties. The purpose of the multiple timeframes and locations were to maximize the opportunities for community involvement. The Community Outreach Subcommittee was out in the community ready to meet at a time which best fit the needs of the public. The meeting format was "Open House" so that participants could stay for as long as their schedules would allow and a member of the Subcommittee provided one-on-one attention to the participants.

At the first series of community input sessions, April 11th and 12th, 2005 a one-page public opinion survey was distributed to the community. Additionally, the surveys were posted on the Northwest Arkansas Regional Planning Commission's website and distributed through libraries, chambers of commerce and other public venues. Over 500 people completed the survey. (To view copies of all the surveys see Appendix B.) It should be noted that although this tool did not provide "scientifically valid" information, it did provide the Subcommittee insight as to the opinions of those in the community.

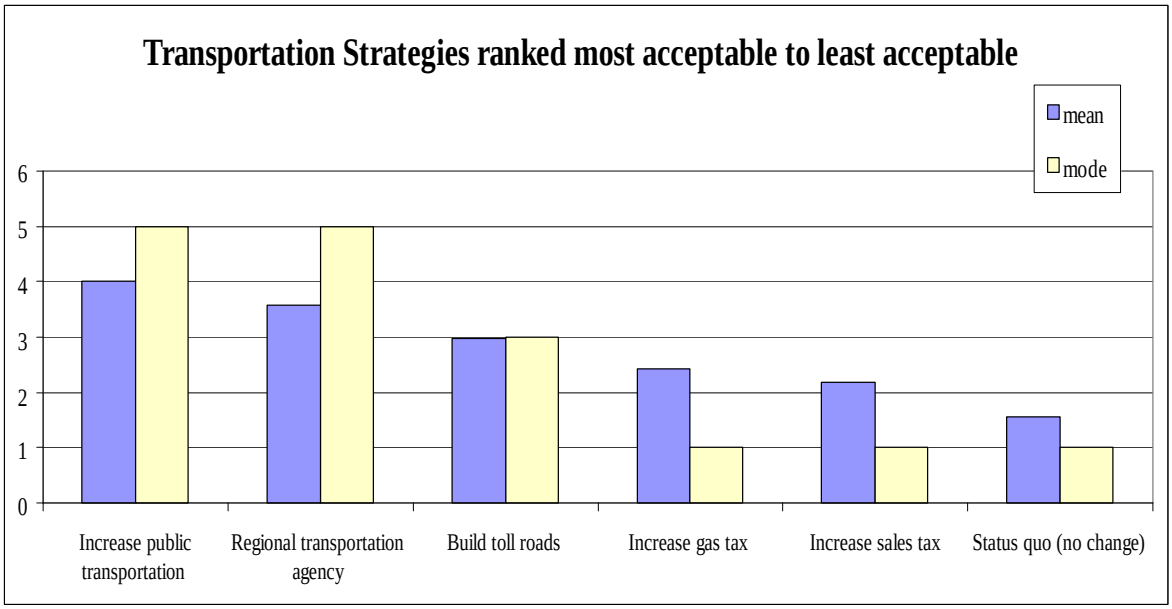
As detailed in the chart below, the results of this survey indicated that the existing transportation system is in good shape (for the time being) but that this community is not doing as good of a job with non-vehicle trips/amenities (i.e. trails and transit). These survey results, along with the questions asked at the sessions, heavily influenced the direction of the Plan.



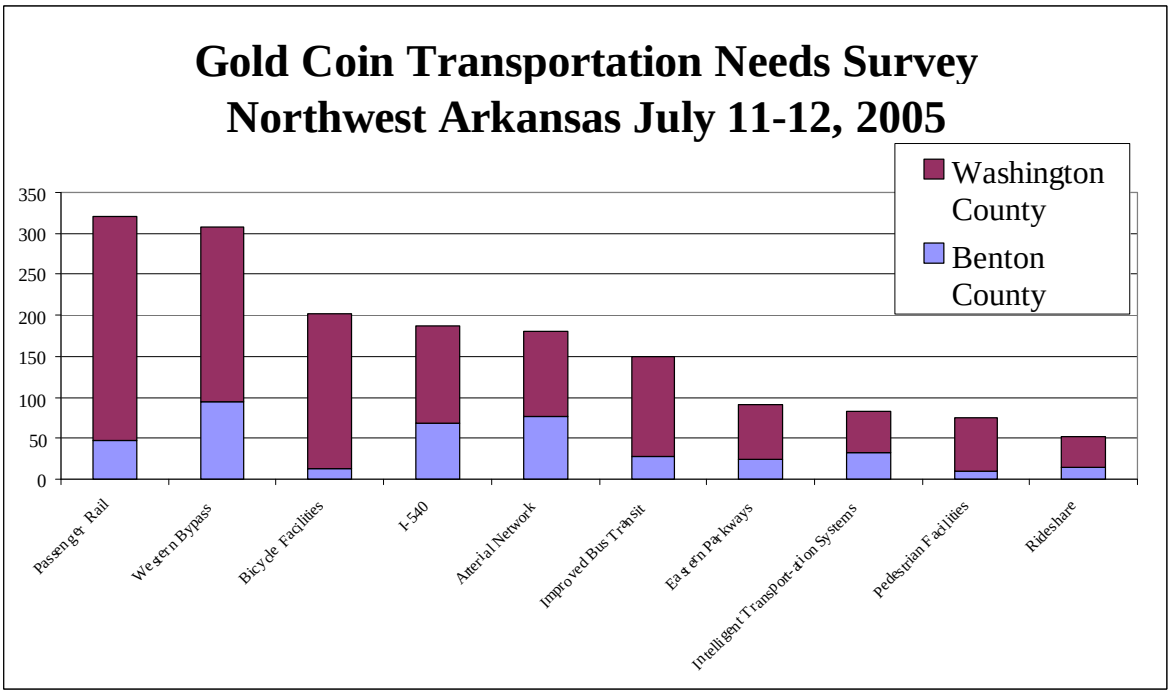
In addition, the Community Outreach Subcommittee wanted to know how important a variety of transportation improvement types ranked to those being surveyed. While it should be noted that all improvements where considered important or somewhat important, using technology (i.e. Intelligent Transportation Systems) and alternative forms of transportation once again surfaced as recommendations from those being surveyed.



Lastly, those surveyed were asked about funding strategies for improving transportation. Increasing the use of transit scored the highest. Creating a Regional Transportation Agency, with taxing authority, was the second highest acceptable alternative. When asked, the respondents indicated that Status Quo is not an alternative nor did they like increase in taxes. Therefore, the Subcommittee used the input provided to ask more detailed questions during the second series of public meetings July 11th and 12th. It should be noted that over 200 people attended this series of public meetings.



The second series of public input sessions (same hours and format) used the input provided by the participants of the first series of public input sessions, as well as the other 450 people who filled out the survey. This input began to suggest a transportation network, in a variety of forms such as parkways and greenways.



Each person who attended the sessions was given ten gold coins to "invest in transportation". There were no limitations to their investment other than the fact that they were allowed to "invest" only once. It should be noted that the project priorities are documented as the cumulative study area priorities, although subsets of the information is provided by county. As detailed in the previous graph, passenger rail and the western beltway surfaced as the two highest priority projects. The second grouping of priorities were bicycle facilities, improve I-540, develop a grid network, and improve bus transit. The final priority grouping includes building an eastern parkway, develop an ITS system, improve the pedestrian network and encourage ridesharing.

It is important to note that each of the community input tools documented thus far are purely public opinion in nature. During some of the community input sessions there were some attendees who came only to "invest" in one form of transportation improvement and to leave.

Although public input did indeed guide the formation of the 2030 Northwest Arkansas Regional Transportation Plan, it was important for the Community Outreach Subcommittee to obtain community input that was scientifically valid. Therefore, the Subcommittee took the input from the citizens to date and created a five-question survey. The Subcommittee then contracted with the University of Arkansas' Survey Research Center to include transportation questions in the Northwest Arkansas Omnibus Survey to gain insight as to the transportation opinions of the public. Staff of the NWARPC worked directly with the University to develop the following questions that pertain to long range transportation efforts in Northwest Arkansas. The results of this survey provide for data worthy of note for all community leaders in Northwest Arkansas.

The Survey Research Center follows standard surveying techniques to maximize the sampling of this community and gathered opinions at random of over 600 participants - with a potential sampling error within plus or minus 4%.

Question 1. An independent study recommends widening I-540 to 6 and 8 lanes in some places and improving 16 interchanges. The estimated cost is $350 million. Given limited funding, which one of the following options would you recommend?

Make the recommended improvements to I-540 of improving the interchanges and widening in places 26.4%

Improve the most congested I-540 interchanges and construct alternative north/south and east/west city streets, including additional I-540 overpasses 57.6%

Don't know 16.0%

Question 2. To what degree do you favor or oppose developing a regional passenger rail project connecting Fayetteville, Springdale, Lowell, Rogers, Bentonville and the Northwest Arkansas Regional Airport? Definition: Passenger rail is defined as an urban rail transportation system designed for carrying commuters. This is not limited to "Light Rail" transit and could include monorail and other commuter rail concepts.

Strongly favor	25.2%
Favor	39.0%
Neither favor nor oppose	16.2%
Oppose	10.2%
Strongly oppose	3.6%
Don't know	5.7%

Question 3. With limited funding available for regional transportation improvements, which funding option would you most favor? Note: Building toll roads for this purpose is done in many other states, including Oklahoma.

Construct projects only as funds become available	42.9%
Build toll roads	33.0%
Increase sales tax	10.4%
Implement a local gas tax	5.8%
Don't know	7.9%

Question 4. Which one of the following forms of transportation would you most consider using at least two times per week as an alternative to driving alone?

Carpooling/vanpooling	36.1%
Walking	7.7%
Riding a bicycle	6.7%
Taking a bus	22.7%
Taking passenger rail	4.5%
I would not use alternative transportation	9.3%
Don't know	2.9%

Question 5. When would you like to see an Interstate-quality highway completed west of the regional airport? Note: The proposed highway would run in a north-south direction from western Bella Vista, west of the regional airport, and reconnecting to I-540 south of Greenland.

Within the next 10 years	66.1%
11 to 15 years	10.4%
16 to 20 years	3.5%
21 to 25 years	6.4%
Don't know	13.7%

Although independently designed and administered, the Northwest Arkansas Regional Airport (XNA) developed two questions to be asked on the same University Omnibus Survey. Although the questions were asked on behalf of the Airport, their questions (and

the responses to said questions) provide additional information useful for the Plan update. The following documents the questions and opinions gathered through the survey:

XNA Question 1. How important do you consider the proposed construction of a new access road from Interstate 540 directly to the Northwest Arkansas Regional Airport?

Very important	34.9 %
Somewhat important	40.0 %
Neither important nor unimportant	8.8 %
Somewhat unimportant	9.4 %
Very unimportant	6.9 %

XNA Question 2. Would you be willing to pay a $1 or $2 toll, when driving on the new road, to fund a new access road from Interstate 540 directly to the Northwest Arkansas Regional Airport?

Yes	61.8 %
No	27.8 %

The results of this survey assisted the TAC Transportation Plan Work Group and the Community Outreach Subcommittee in developing scenarios for the allocation of resources in the development of a cost-feasible Plan.

The following is an analysis of the results of the scientifically valid survey. The first issue was where to apply the scarce Interstate resources. The first question asked by the NWARPC was where the respondents recommended allocating resources. The survey revealed that over 57% suggested that the most congested interchanges be improved and other funds be spent on alternative north/south and east/west streets, including additional overpasses. The 2030 Northwest Arkansas Regional Transportation Plan recommends establishing a regional arterial network with an emphasis on east/west and north/south connectivity as well as studying locations for parkways and boulevards. Additionally, the Plan recommends establishing and maintaining a regional cohesiveness and unity by requesting Federal funding for specific major corridor projects, and several I-540 improvements.

The next question revealed that over 64% of the community strongly favors developing a passenger rail project. Therefore, a recommendation in the 2030 Northwest Arkansas Regional Transportation Plan is to explore all modes of transportation. It should be noted that information about various forms of rail/transit was provided at the community input session.

The third question asked about alternative financing for transportation. While 43% suggest that projects be constructed only as funds become available, almost 50% support some alternative form of funding such as tolls, increase

sales tax or local option gas tax. The remaining 8% did not know. The speculation is that as traffic congestion worsens, a community's willingness to increase transportation funding increases. It should be noted that all of the major cities in NWA already have a dedicated sales tax to fund transportation infrastructure. The 2030 Northwest Arkansas Regional Transportation Plan recommends investigating innovative funding mechanisms, including toll roads.

The fourth question pertained to people's willingness to take another form of transportation other than a single occupant vehicle at least twice a week. Carpooling and taking the bus (36% and 23% respectively) were the highest rated alternatives. While 9% stated that they would not use any other form. It should be noted that while 64% of the respondents favor the development of passenger rail (question #2), only 15% indicated that they would use it in this question. The Plan recommends that transit and transportation alternatives be encouraged and explored.

The last question asked by the NWARPC was about building a Western Beltway in the region. Sixty-six percent (66%) responded that they would like this roadway constructed within the next ten years. In addition to the technical merit of this project, this input helped to drive the insertion of the western beltway into the 2030 Northwest Arkansas Regional Transportation Plan.

As noted previously, the Northwest Arkansas Regional Airport (XNA) also asked questions on the same survey. Although XNA questions pertained only to the surface transportation issues surrounding the airport, there is some value of this data to the region.

The first question asked by XNA pertained to the level of importance that the construction of a new access road from the Interstate to the airport would have. Approximately 75% of the respondents indicated that it was important/somewhat important. This project is in the design phase and is tied to the Highway 412 Springdale Northern Bypass, which received the Record of Decision from the Federal Government in February 2006.

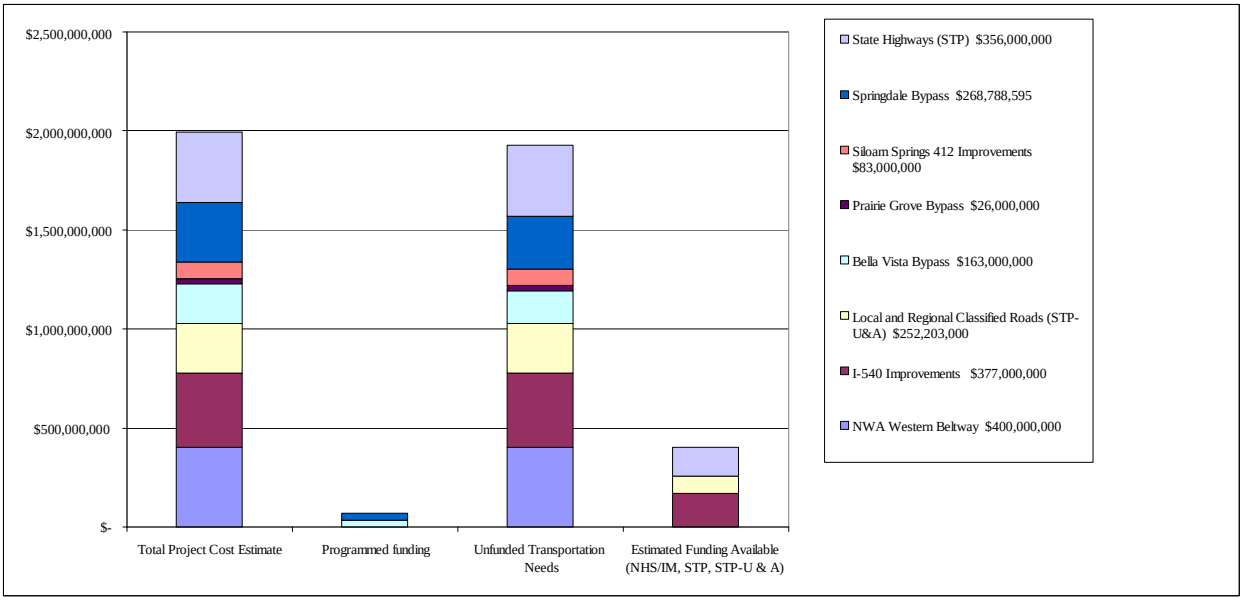
The other question asked by XNA was about the willingness of paying tolls ($1-$2) to fund the new access road. Almost 62% of those respondents indicated that they would be willing to pay the toll. The results of this question provides additional insight to the alternative financing question (#4) asked by the NWARPC where 33% of the respondents indicated that tolls where a favorable funding option.

Although the Plan must be cost-feasible, the data provided by this survey assisted the TAC Transportation Plan Work Group in recommending projects for alternative financing to increase the potential for new major investments to be funded. The data also assisted in creating the priorities, which were presented at the third round of community input sessions.

The third series of community input sessions were held on November 7 and 10, 2005. The first session was held at the Jones Center for Families in the lobby. The second session was held in the lobby of the Embassy Suites Hotel in Rogers. Both sessions were well attended due to media coverage, and the fact that those on the mailing list received invitations in the mail.

More than 120 people attended the two sessions, which were both "Open House" format.

The purpose of these sessions was to present the Draft Plan and receive comments. Specifically, the Community Outreach Subcommittee presented the major categories of projects and associated costs totaling $1.9 billion with less than $500 million of projected funding.



In addition to the other community meetings, the Subcommittee worked with the Arkansas State Highway and Transportation Department (AHTD) to coordinate a public input session to be held in conjunction with a public meeting being held for improvements to Highway 412 in Siloam Springs, including a possible bypass. The session was held in Siloam Springs. Due to the possible impacts of this bypass, this project historically attracted over 400 interested citizens. Therefore, providing an overview of the long term regional vision was appropriate.

The same information was provided in Siloam Springs as was presented in the previously described community input sessions.

As the projected costs and anticipated revenues for the projects in the 2030 Northwest Arkansas Regional Transportation Plan were analyzed and updated, it

became apparent that there were not enough anticipated resources to complete all of the listed improvements. To determine what would be "cost feasible" to build, the projects were evaluated from a technical and financial perspective to determine the most crucial regional transportation needs.

Determining the most crucial projects also provides the perfect opportunity for direct public involvement. Feedback from the community was gathered through the third round of community meetings. Due to the fact that the transportation needs are four times greater than expected revenues, the issue of adequate funding and alternative funding will remain an issue for the MPO.

The highest priority projects resulting from the input of all three meetings are included in Appendix G. This information provided valuable data as the TAC developed the "Constrained List" of highway projects.

The final public outreach session was held in the conference room at the Northwest Arkansas Regional Planning Commission on April 4, 2006. The Plan and accompanying maps were on display. A two-week comment period was allowed, following the outreach session, before final adoption of the Plan by the Policy Committee on April 20, 2006.

C. Environmental Justice

The principles of environmental justice, as outlined by the Federal Highway Administration, were used to ensure that the process of transportation planning is consistent with the provisions of FHWA Order on Environmental Justice and Title VI of the Civil Rights Act of 1964. These provisions were adhered to throughout the community involvement of the 2030 Northwest Arkansas Regional Transportation Plan.

The three fundamental environmental justice principles, which require the inclusion of traditionally under-represented groups in transportation studies, are:

- To avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority or low-income population.

In keeping with the principles and objectives of environmental justice, the MPO made special efforts to reach out to minorities and low-income groups within the region through media outlets and grass-roots outreach. These techniques

included moving locations of the meetings to include meeting locations where the traditionally underserved gather, reaching out to the Hispanic and Marshallese communities and providing survey materials in Spanish as well as English.

An analysis of whether highway projects either underserved or unduly impacted minority groups was performed by overlaying the developed list of financially constrained projects over a map depicting concentrations of minority groups.

Also it should be noted that a consistent need expressed by minorities was for improved public transportation. The Plan addresses this need in the Transit and Transportation Alternatives Chapter.

(See maps in Appendix C.)

Conclusion

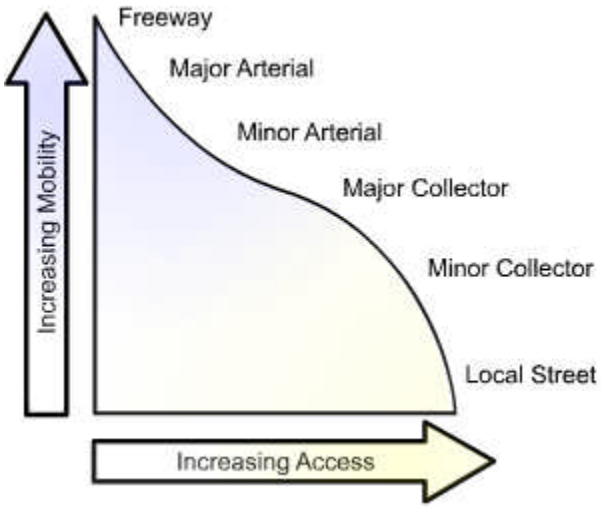
Northwest Arkansas was able to meet the challenge of involving the community during this 2030 Northwest Arkansas Regional Transportation Plan update through regular input sessions in the community as well as regular media attention to engage citizens for a long-range plan. The MPO has taken great strides in engaging the public in this process and the end result reflects the opinions of those who took the time and effort to provide input.

Involving the public in the decision-making process was an essential part in developing public consensus in this 2030 Northwest Arkansas Regional Transportation Plan. The public was invited to provide information, offer alternatives, present their interests and opinions, and react to the recommended Plan. This allowed important community concerns and technical issues to be identified and addressed. By using techniques outlined in the original Community Outreach plan, the MPO was able to engage the citizens of this region to participate in the development of a transportation blue-print for this region for future generations.

CHAPTER VI TRANSPORTATION DESIGN

A. Cross-Sections

Roadway facilities are classified as Local, Collectors, Minor Arterials, Principle Arterials, and Freeway/Expressways. These classifications reflect the utility of the various facilities as illustrated below with the higher classifications more responsible for moving traffic long distances while the lower functional classes are primarily responsible for access to land. It is necessary for roadways to be on the State's functionally classified system to qualify for State and Federal funding. A map of the functionally classified system is in Appendix J.

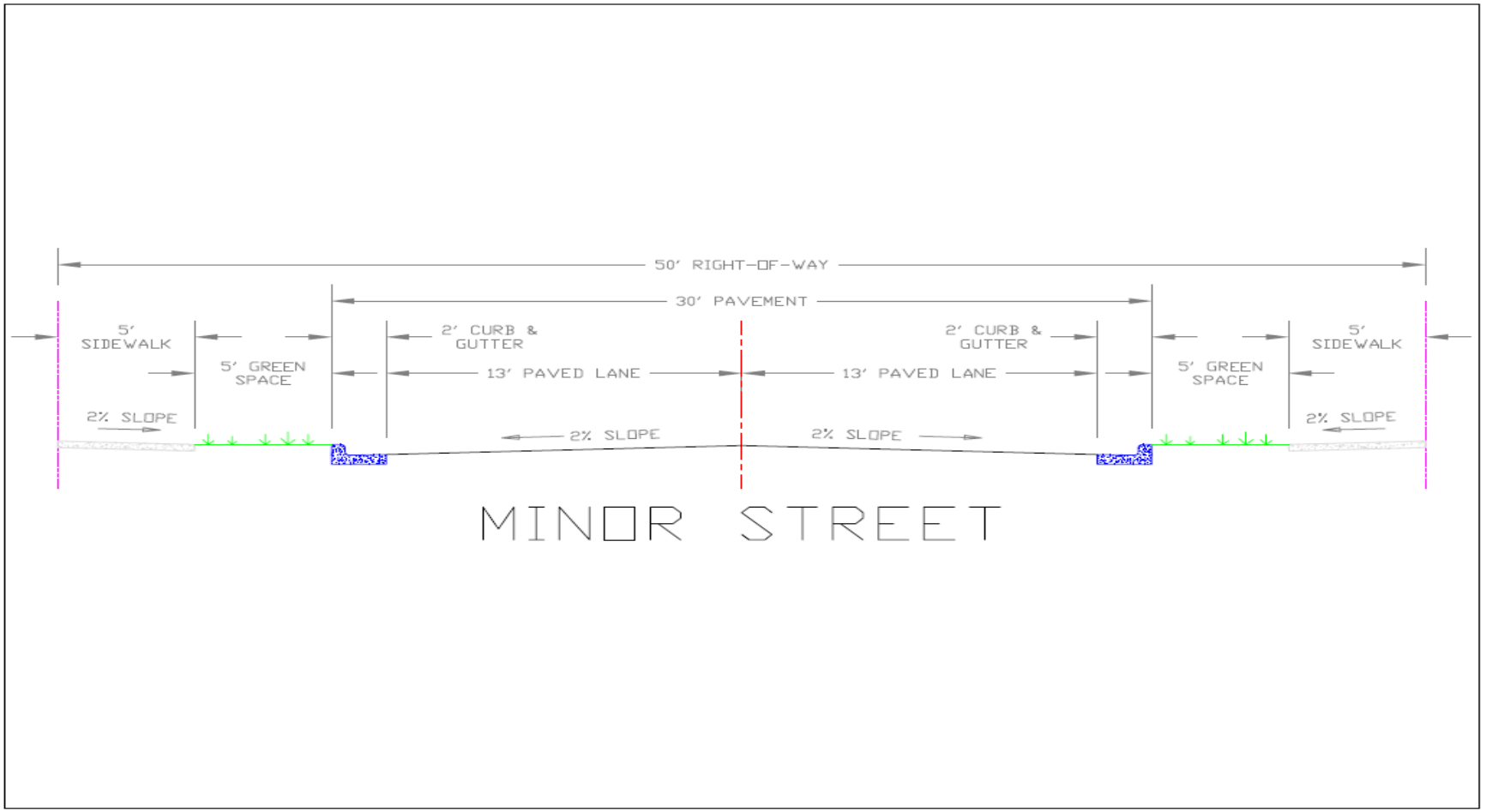


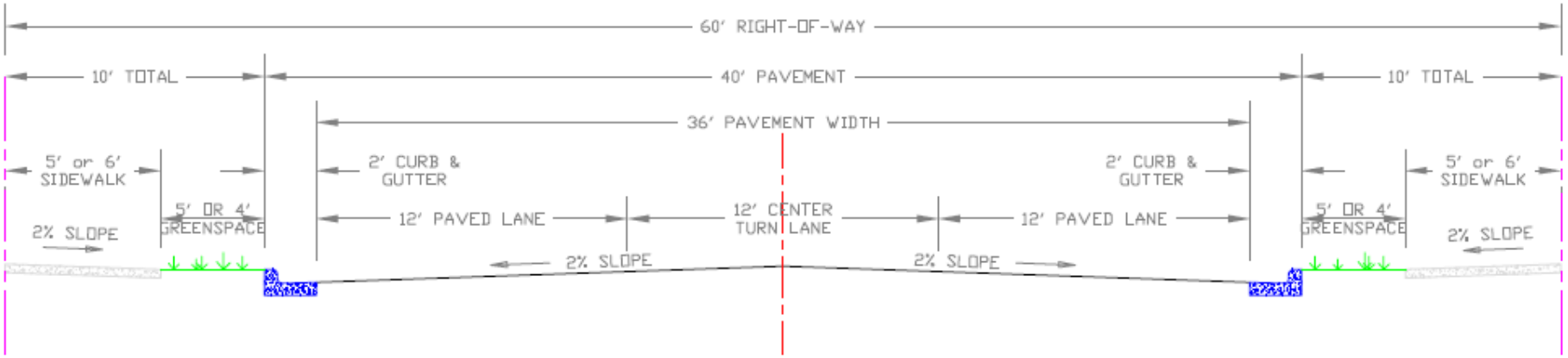
Cross-section recommendations are provided here along with more information regarding the use and capacity of the different classifications.

Of particular importance to the rapidly growing area of Northwest Arkansas is adequate protection of right of way and setbacks adjacent to current and proposed roads. A primary tool for this protection is the adopted master street plan of the cities and road plan of the counties.

The cities and counties are urged to consider the existing functionally classified system as well as the proposed 2030 network and to protect the necessary right of ways through their adopted plan. It should also be noted that the cross-section designs in this Plan reflect typical recommended designs and some areas of commercial or industrial development will require cross-section designs higher than the typical cross-section of the designated functional class of the roadway. Cities should identify those areas and preserve the necessary right of way for the higher design.

The following cross-sections are recommended:





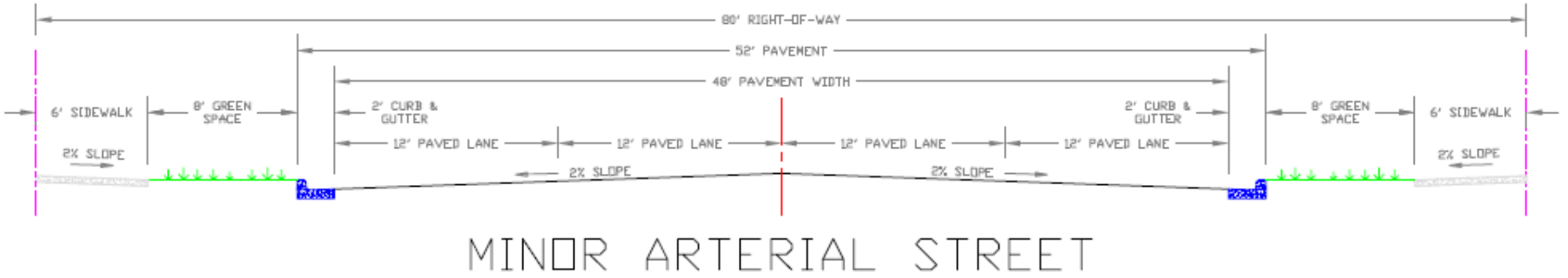
COLLECTOR STREET

Function Provides traffic circulation within neighborhoods, commercial and industrial areas. Collects traffic from local streets in neighborhoods and channels it into the arterial system. Connections between arterials should be indirect or should not be allowed in order to discourage use by traffic from outside the neighborhood.

Design Service Volume 4,000 vpd; 6,000 vpd with left turn bays

Speed 25-30 mph

(For Five Lane Minor Arterial see Major Arterial)

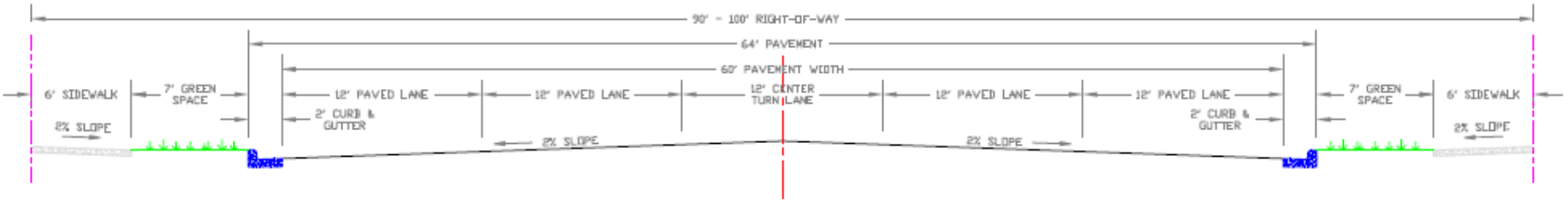


MINOR ARTERIAL STREET

Function Connects higher functional class facilities, activity centers, regions of the area, and major county roads at the edge of the metropolitan area. Traffic is composed predominantly of trips across and within regions of the city. Provides service to traffic at a somewhat lower level of travel mobility than principal arterials with minimal control of access. Ideally does not penetrate neighborhoods.

Design Service Volume 12,200 vpd; 14,800 vpd with left turn bays

Speed 35-40 mph

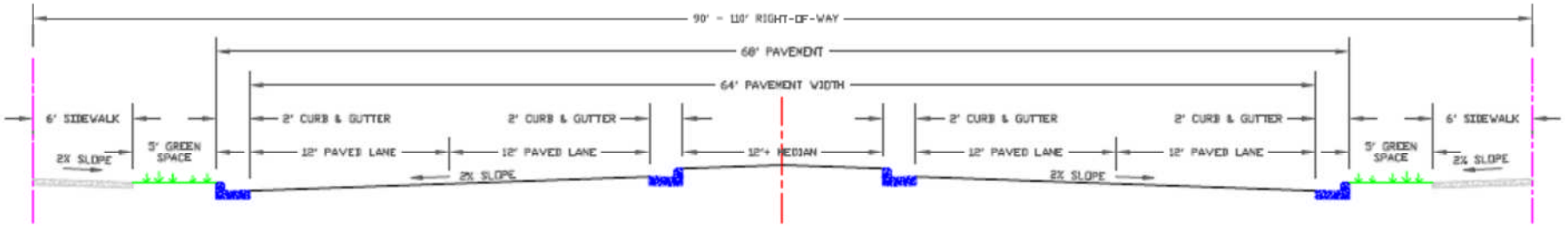


MAJOR ARTERIAL STREET

Function Connects freeway/expressways, rural highways at the edge of the metropolitan area, and major urban activity centers within the metropolitan area. Traffic is composed predominantly of traffic across or through the city. Access may be controlled through medians or by the limitation of curb cuts through the orientation of access for new developments, especially residential subdivisions, to intersection cross streets.

Design Service Volume 17,600 vpd – 20,600 vpd with left turn lane

Speed 40-45 mph



BOULEVARD 4-LANE STREET

Function, Design Service Volume, and Speed will be similar to other Arterials

[Freeway/Expressway Diagram]

Function High speed, multi-lane facilities with a high degree of access control. These facilities serve the major centers of activity of a metropolitan area; the longest trip desires; and are well integrated with urban arterials and major rural arterial routes entering the area. They should provide a high level of traffic service for travelers who do not have local destinations and wish to bypass the city.

Design Service Volume 28,300 vpd expressway; 44,800 vpd freeway

Speed 45-70 mph

Lanes Four 12 ft. lanes; ht –foot inside shoulders.

Median Either acceptable depressed median or raised median with safety barrier.

Regarding Bicycle Lanes and Sidewalks:

For designated on-street bike routes, add:

Four feet to total ROW requirements allowing for two extra feet on each outside lane for bicycle safety. OR

Eight feet to total ROW requirements allowing four to five foot striped bicycle lanes.

It should also be noted that the newly adopted AHTD Policy regarding sidewalks calls for 5-foot sidewalks with a 3-foot buffer between the roadway and the sidewalk. Any State Highway project with wider sidewalks or buffer zones will have a cost share requirement from the local jurisdiction. AHTD Policy regarding bike lanes indicates that they will be considered if the facility is on an adopted master trail plan. From the AHTD Policy:

- When bicycle accommodations are to be made on routes with an open shoulder section, the paved shoulder will be used to accommodate bicycles. Shoulder widths shall conform to the widths recommended in the American Association of State Highway and Transportation Officials (AASHTO) Green Book.
- When bicycle accommodations are to be made on routes with a curb and gutter section, the bicycle lane will be in accordance with recommendations in the AASHTO Guide for the Development of Bicycle Facilities. Generally, a bicycle lane width of 4 feet (measured from the lane edge to the edge of the gutter) will be considered.
- If local or regional design standards specify bicycle facility widths greater than the standards noted above, the additional right-of-way and construction costs associated with the greater width shall be funded by the local jurisdiction that adopted the higher design standards.

The complete AHTD Policy for Pedestrian and Bicycle Facilities can be seen in the Bicycle and Pedestrian Chapter of this document.

Road Sign Recommendation: All roads crossing named waterways will have a sign naming the waterway.

B. Access Management

One of the recommendations of the TAC Work Group was to implement access management design techniques wherever appropriate.

Access Management provides an important means of maintaining mobility. It calls for effective ingress and egress to a facility, efficient spacing and design to preserve the functional integrity, and overall operational viability of street and road systems. Good access management promotes safe and efficient use of the transportation network.

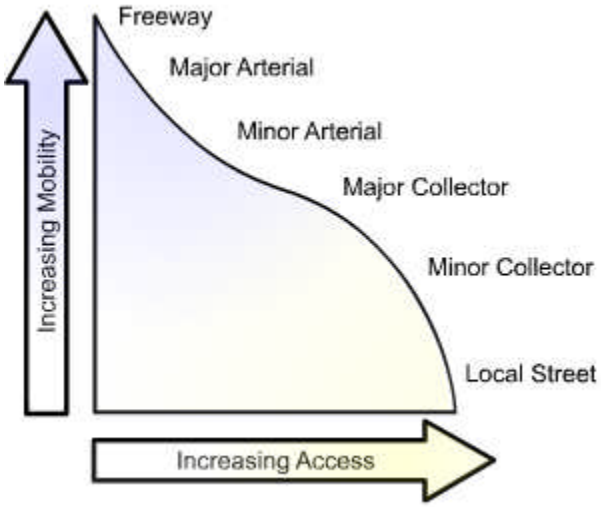


Figure V.B.1 - Conceptual Roadway Functional Hierarchy
Source: Federal Highway Administration

Access Management should address the following areas:

- Facility hierarchy
- Intersection and interchange spacing
- Driveway spacing
- Traffic signal spacing
- Median treatments and median openings
- Turning lanes and auxiliary lanes
- Street connections

In areas of dynamic land development, it is important for jurisdictions to develop access standards that achieve a balance between property access and functional

integrity of the road system. Studies show that implementing access management provides three major benefits to transportation systems:

- Increased roadway capacity
- Reduced crashes
- Shortened travel time for motorists

Access management applies land use and transportation strategies that control the flow of traffic between the road and surrounding land. Access management can bring important benefits such as:

- postponing or preventing more costly highway improvements
- improving safety, reducing delays, promoting desirable land use patterns
- protecting the value of private investments
- making bicycle and pedestrian travel safer

Access Management encompasses a set of techniques that state and local governments can use to control access to highways, major arterials, and other roadways. The Federal Highway Commission lists the following techniques:

Access Spacing: increasing the distance between traffic signals improves the flow of traffic on major arterials, reduces congestion, and improves air quality for heavily traveled corridors.
Driveway Spacing: fewer driveways spaced further apart allows for more orderly merging of traffic and presents fewer challenges to drivers.
Safe Turning Lanes: dedicated left and right-turn, indirect left-turns and U-turns, and roundabouts keep through-traffic flowing. Roundabouts represent an opportunity to reduce an intersection with many conflict points or a severe crash history (T-bone crashes) to one that operates with fewer conflict points and less severe crashes (sideswipes) if they occur.
Median Treatments: two-way left-turn lanes (TWLTL) and nontraversible, raised medians are examples of some of the most effective means to regulate access and reduce crashes.
Right-of-Way Management: as it pertains to Right-of-Way reservation for future widenings, good sight distance, access location, and other access-related issues.

An effective access management program will accomplish the following:

1) Limit the number of conflict points at driveway locations. Conflict points are indicators of the potential for accidents. The more conflict points that occur at an intersection, the higher the potential for vehicular crashes. When left turns and cross street through movements are restricted, the number of conflict points is significantly reduced.
2) Separate conflict areas. Intersections created by streets and driveways represent basic conflict areas. Adequate spacing between intersections allows

drivers to react to one intersection at a time, and reduces the potential for conflicts.

3) Reduce the interference of through traffic. Through traffic often needs to slow down for vehicles exiting, entering, or turning across the roadway. Providing turning lanes, designing driveways with large turning radii, and restricting turning movements in and out of driveways allows turning traffic to get out of the way of through traffic.

4) Provide sufficient spacing for at-grade, signalized intersections. Good spacing of signalized intersections reduces conflict areas and increases the potential for smooth traffic progression.

5) Provide adequate on-site circulation and storage. The design of good internal vehicle circulation in parking areas and on local streets reduces the number of driveways that businesses need for access to the major roadway.

Below are ten access management policy recommendations to consider:

- Lay the foundation for access management in local comprehensive plans
- Limit the number of driveways per lot (generally, one per parcel)
- Locate driveways away from intersections
- Connect parking lots and consolidate driveways (so vehicles can travel between parcels without reentering an arterial)
- Provide residential access through neighborhood streets (residential driveways should generally not connect directly to arterials)
- Increase minimum lot frontage on major streets (minimum lot sizes on major arterials should be larger than on minor streets)
- Promote a connected street system (avoid street networks that force all local traffic onto arterials)
- Encourage internal access to outparcels (i.e., locations in shopping centers located on arterial streets)
- Regulate the location, spacing and design of driveways
- Coordinate with the Arkansas Highway and Transportation Department

Business Concerns and Access Management

When access management techniques are proposed, very often business owners that depend on pass-through traffic (especially gas stations and fast food

restaurants) raise questions concerning reduced access to business locations. This is particularly the case when planners propose that the middle two-way left turn lane be converted to a raised median strip. Planners and traffic engineers must take these concerns into consideration and carefully study each specific location in detail. The Federal Highway Administration says that although there are few studies of the actual impacts of medians on business sales, there are several surveys of business owner opinions. Surveys conducted in multiple corridors in Texas, Iowa, and Florida demonstrate that the vast majority of business owners believe there have been no declines in sales, with some believing there are actually improvements in business sales.[1] If appropriate access management can reduce travel time while increasing the safety of an area, the market radius surrounding a commercial location increases significantly.

When to implement Access Management

The best time to plan and employ access management is when cities improve or build new roads. In this way much of the disruptions to businesses can be avoided. With the update of the 2030 Northwest Arkansas Regional Transportation Plan, the TAC Work Group projected that many roads must be built or widened in the next ten years. These planned new road locations and widenings should be seen as an opportunity to prevent business disruptions and save tax dollars by implementing access management as part of the design process rather than retrofitting roads later. However, given the many benefits of access management, cities should apply access management techniques whenever possible.

For more on Access Management please see:

The Transportation Research Board http://gulliver.trb.org/

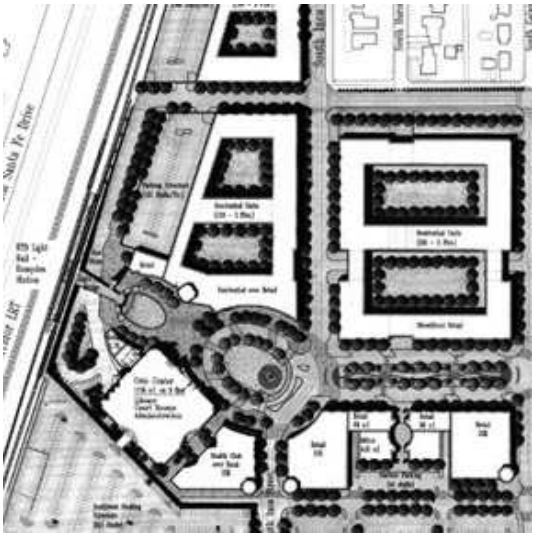
The Federal Highway Administration; Access Management:
http://ops.fhwa.dot.gov/access_mgmt/

TRB Committee: http://www.accessmanagement.gov/committee.html

[1] U.S. Department of Transportation Federal Highway Administration *Benefits of Access Management Brochure*: FHWA Document Number FHWA-OP-03-066; http://ops.fhwa.dot.gov/access_mgmt/docs/benefits_am_trifold.htm#8

C. Transit Oriented Development

Urban designers and planners who advocate more infill and compact development suggest Transit Oriented Development (TOD) as one alternative. Transit Oriented Development is compact, walkable development occurring within one-half mile of a transit stop. In general, transit oriented developments include a mix of uses, such as housing, shopping, employment, and recreational facilities within a design that puts a high priority on accommodating transit, pedestrians and bicycles. Besides providing direct access to transit, transit oriented developments can offer a variety of destinations close to one another, making it possible to move around without exclusive reliance on a car. If possible, transit oriented developments should incorporate an attractive public area —for example, streets with trees, furniture, and plazas—to encourage pedestrian activity.



The Englewood Town Center plan by Calthorpe Associates shows a central plaza connecting to a transit stop at left. (Source: New Urban News)

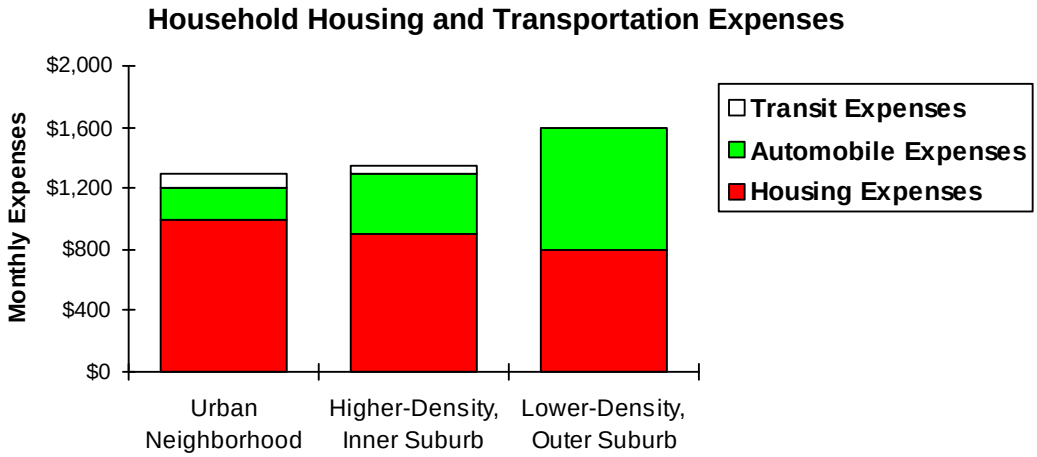
Opportunities for Transit Oriented Developments in Northwest Arkansas may include downtown locations of large and small cities. Also, locations near major freeways such as I-540, might be adaptable to TODs should bus rapid transit become available.

A study prepared by the California Department of Transportation points out that there are many benefits associated with TODs including:

- **Quality of Life:** "Quality of life" is often used to represent a host of factors that collectively describe a good place to live. It includes concepts such as safe neighborhoods, access to jobs and recreation, a sense of community, ease of getting around, and moderate cost of living.

- **Increased Mobility Choice:** Because of their pedestrian orientation, mix of uses, and access to transit, TODs increase the number and proportion of all trips made by transit, walking, and cycling.
- **Reduced Congestion:** To the extent that TOD allows more people to use transit, walk, and bicycle, it reduces road and highway congestion.
- **Conservation of Land and Open Space:** By concentrating development, TOD helps to curtail sprawl, which protects open space.
- **Health Benefits:** By providing more opportunities for walking and bicycling, TODs offer direct health benefits—significant at a time when obesity has become a national epidemic, fueled partly by the sedentary lifestyle associated with sprawl.
- **Enhanced Sense of Community:** Research suggests that residents in suburban sprawl neighborhoods feel no strong "sense of community." TOD, however, provides and emphasizes public space that affords residents spending opportunities for face-to-face contact.
- **Economic & Social Benefits:** TOD can lower housing costs and reduce household transportation spending.
- **Jobs-Housing Balance:** A jobs-housing imbalance occurs when jobs are located far from housing. Bringing jobs, housing, and services closer together and linking them with transit helps mitigate this mismatch.
- **Redevelopment Opportunities:** TOD can combine public and private investment, so that scarce public funds can be used most efficiently and effectively.

Proponents of Transit Oriented Development maintain that people living within walking distance of public transit can reduce their transportation costs considerably by becoming a one-car family and driving less. Lower transportation costs, according to TOD advocates, can offset the higher housing costs of living in an urban neighborhood as shown in the diagram below. Indeed, a 2002 study by the Bureau of Labor Statistics suggested that the average family spends $7,000 per year for each vehicle it owns. (Transit advocates also point out that hidden costs of driving would make this figure much higher but the driver does not immediately pay for these costs.)



Urban neighborhoods tend to have high housing costs but lower transportation costs. Current mortgage assessments only consider housing costs and treats automobile ownership as a financial asset rather than a liability, encouraging homebuyers to choose automobile-dependent locations. Higher density, location efficient development creates a more neutral housing market.

Even though there may be many benefits with TOD, there are also many obstacles to their development. Neighborhood groups usually oppose high-density developments that might attract more traffic. Local development codes around transit stations usually favors low-density, auto-oriented uses. Mixed-use, higher density projects with reduced amounts of parking (such as in TOD) can significantly increase risks for developers and financers. TOD can be more costly, and can be subject to more regulations and more complex local approval processes, as compared to conventional automobile oriented development. Lenders typically have concerns about financing mixed-use projects or those with lower parking ratios as with TOD.

CHAPTER VII BICYCLE AND PEDESTRIAN FACILITIES

A. Introduction

Northwest Arkansas is growing rapidly in population. Public support and advocacy for improved conditions for bicycling and walking have grown even faster, as evidenced in community input sessions and surveys leading up to the creation of this document. This emphasis on non-motorized transportation reflects a desire by the population for livable communities, in which young and old alike are able to move about and recreate safely without having to always depend on a car.

Bicycle and Pedestrian Trails are also important factors in developing a comprehensive Transportation Plan. Federal law states that "bicyclists and pedestrians shall be given due consideration in the planning process…bicycle facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities except where bicycle use and walking are not permitted".

There are health, environmental and economic benefits to non-motorized transportation as well. Many recent articles have highlighted the epidemic of obesity that is affecting the citizens of our nation and pointedly noted that city, county and regional planners bear some of the responsibility for this. If planners plan beyond motorized transport, they allow the average citizen to incorporate exercise into their daily routine of commuting to work/school or through other daily activities.

The environmental benefits of walking and bicycling – decreased air, water and noise pollution, less vehicular traffic, and hence, decreased congestion, etc – have been well documented, as have been the health benefits to individuals.

Businesses are increasingly concerned about locating in livable communities in order to attract and retain employees. Additionally, businesses are concerned about their access to goods and services on a timely basis.

For all these reasons, it is important that communities in Northwest Arkansas be aware of the bicycling and pedestrian initiatives that are taking place in neighboring communities so that eventually, these efforts can be integrated into a network of multi-use trails, sidewalks and other amenities for bicyclists and pedestrians.

States and Metropolitan Planning Organizations are required to carry out a continuing, comprehensive, and cooperative transportation planning process that results in two products.

1. A long range transportation plan, which provides for the development and integrated management and operation of transportation systems and facilities, including pedestrian walkways and bicycle transportation facilities. Both Federal and MPO plans will consider projects and strategies to increase the safety and security of the transportation system for non-motorized users.

2. A Transportation Improvement Program (TIP) which contains a list of proposed Federally supported projects to be carried out over the next three years. Projects that appear in the TIP should be consistent with the 2030 Northwest Arkansas Transportation Plan.

The transportation planning process is carried out with the active and on-going involvement of the public, affected public agencies, and transportation providers.

Section 1202 of TEA-21 states that bicyclists and pedestrians shall be given due consideration in the planning process (including the development of both the Plan and TIP) and that bicycle facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities except where bicycle use and walking are not permitted. Transportation plans and projects shall also consider safety and contiguous routes for bicyclists and pedestrians.

Bicycling and walking are important elements of an integrated, intermodal transportation system. Constructing sidewalks, installing bicycle parking at transit, teaching children to ride and walk safely, installing curb cuts and ramps for wheelchairs, striping bike lanes and building trails all contribute to our national transportation goals of safety, mobility, economic growth and trade, enhancement of communities and the natural environment, and national security.

B. Heritage Trail Plan

In February of 2001 when the 2025 Regional Transportation Plan was adopted, it contained a policy vision to develop a regional bicycle and pedestrian facilities plan. It stated that the plan should be developed through the following process:

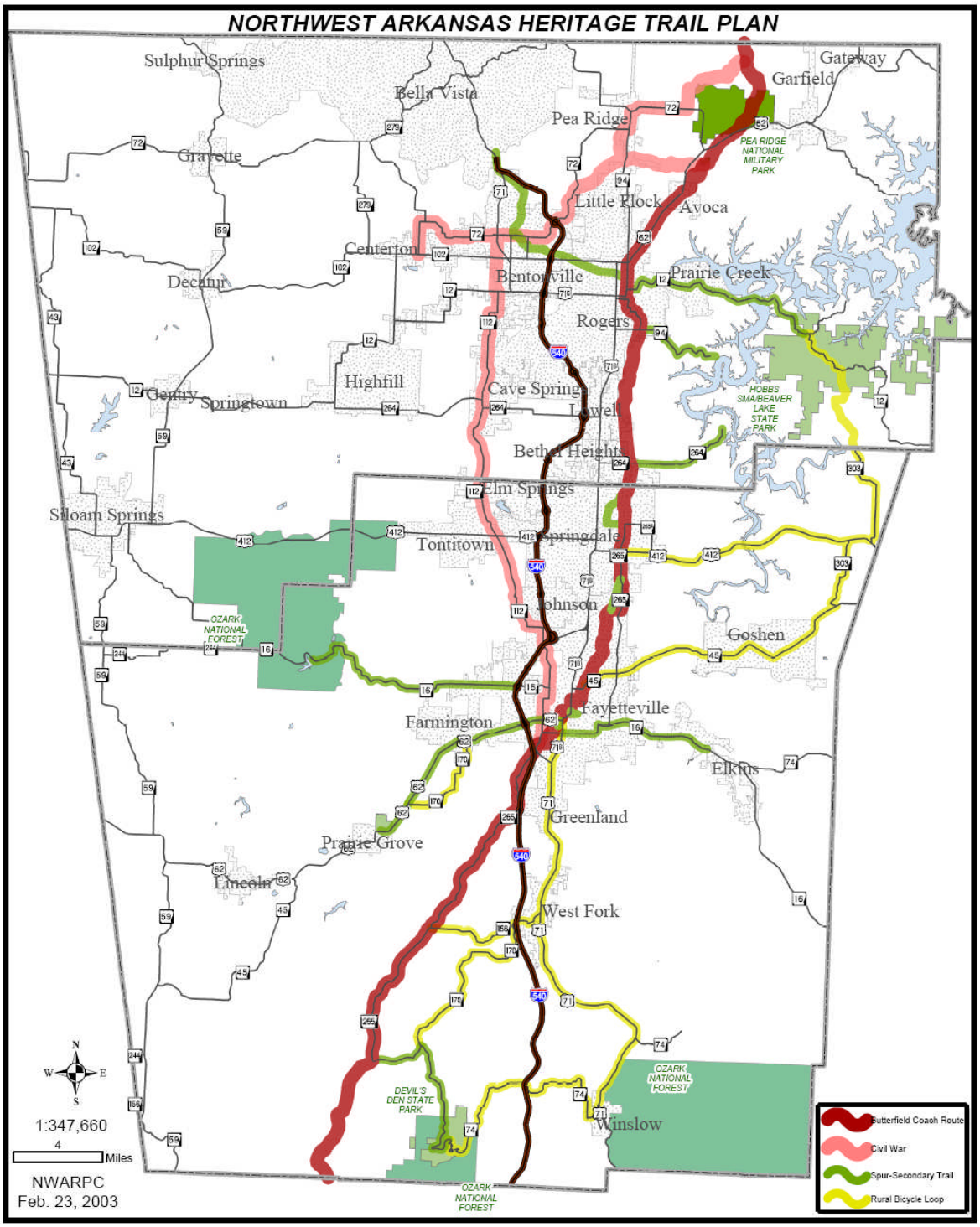
1. The MPO will assure that all governmental entities within the area are aware of funding possibilities for bicycle and pedestrian facilities.
2. The MPO will gather an inventory of existing bicycle and pedestrian facilities as produced by the local governmental entities and highlight them on a regional map.
3. As the individual governments further develop their individual systems, and trail master plans, the MPO will obtain the mapped networks and transfer them to the regional map noting and promoting logical linkages between the cities.
4. The MPO will develop a suggested policy for prioritization of projects.
5. The MPO will propose standards and typical sections for the individual cities and counties to adopt.

The culmination of this process is the **Northwest Arkansas Heritage Trail Plan**. (To view the Plan in its entirety, see Appendix D.) It was adopted as Amendment Five to the 2025 Regional Transportation Plan for Metropolitan Northwest Arkansas. As cities adopt their own master trail plans that link to the region-wide Heritage Trail Plan, those plans will be recognized as part of the regional plan.

The Heritage Trail Plan describes a regional network for proposed bicycle and pedestrian facilities within the two counties of Northwest Arkansas. The entire network can be seen, at a minimum, as a bicycle route with improvements along the route providing safety for bicyclists. Within the more populated areas, where pedestrian traffic is anticipated, the improvements will also accommodate safe pedestrian travel. This regional system is designed to link the emerging master trail plans of the region's cities. By linking the cities' plans and including strategic spurs, the Heritage Trail Plan provides links to recreational site, parks, historic sites, museums, schools, work centers and retail shopping.

The Butterfield Stagecoach Route is a major "backbone" component of the Heritage Trail Plan. This route will be marked with unique signage and promoted with an informational brochure. As the Trail of Tears routes and Civil War routes are developed, similar efforts can be made for these unique components. As such, the Heritage Trail system can double as an auto tour guiding citizens and visitors to our region's attractions and points of interest.

The 2030 Northwest Arkansas Regional Transportation Plan recommends maintaining a regional commitment to bicycle and pedestrian facilities, as well as encouraging cities to develop master trail plans in conjunction with the Heritage Trail Plan.


NORTHWEST ARKANSAS HERITAGE TRAIL PLAN
Sulphur Springs
Bella Vista
Gateway
Garfield
Pea Ridge
PEA RIDGE NATIONAL MILITARY PARK
Gravette
Little Rock
Avoca
Centerton
Bentonville
Prairie Creek
Decatur
Rogers
Highfill
Cave Springs
Lowell
HOBBS SMA/BEAVER LAKE STATE PARK
Gentry
Springtown
Bethel Heights
Elm Springs
Siloam Springs
Tontitown
Springdale
Johnson
OZARK NATIONAL FOREST
Goshen
Fayetteville
Farmington
Elkins
Greenland
Prairie Grove
Lincoln
West Fork
DEVIL'S DEN STATE PARK
OZARK NATIONAL FOREST
Winslow
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S
1:347,660
4
Miles
NWARPC
Feb. 23, 2003
Butterfield Coach Route
Civil War
Spur-Secondary Trail
Rural Bicycle Loop

C. AHTD Policies

Bicycle Facility Accommodation Policy

1. Accommodation of bicycles will be given due consideration when a proposed highway project is on a route that has been designated as a bicycle route by a locally adopted bicycle plan or master street plan and the Department concurs that the route should be a designated bicycle route. Coordination with local jurisdictions may be necessary to determine the recommended accommodations.

2. Bicycle accommodations on routes that have not been designated as bicycle routes by a locally adopted bicycle plan or a master street plan will be considered if the local jurisdiction will provide the required additional funds.

3. When bicycle accommodations are to be made on routes with an open shoulder section, the paved shoulder will be used to accommodate bicycles. Shoulder widths shall conform to the widths recommended in the American Association of State Highway and Transportation Officials (AASHTO) Green Book.

4. When bicycle accommodations are to be made on routes with a curb and gutter section, the bicycle lane will be in accordance with recommendations in the AASHTO Guide for the Development of Bicycle Facilities. Generally, a bicycle lane width of 4 feet (measured from the lane edge to the edge of the gutter) will be considered.

5. If local or regional design standards specify bicycle facility widths greater than the standards noted above, the additional right-of-way and construction costs associated with the greater width shall be funded by the local jurisdiction that adopted the higher design standards.

6. Shared use paths (joint pedestrian/bicycle facilities separated from the roadway) are used primarily for recreational purposes, and as such will not normally be considered for bicycle accommodation on the Federal highway system. Exceptions will be considered when the local jurisdiction specifically requests the shared use path. In such cases, the minimum shared use path width shall be 10 feet and the local jurisdiction shall bear any additional right-of-way and construction costs required for the shared use path and shall assume all future maintenance of the facility.

Sidewalk Policy

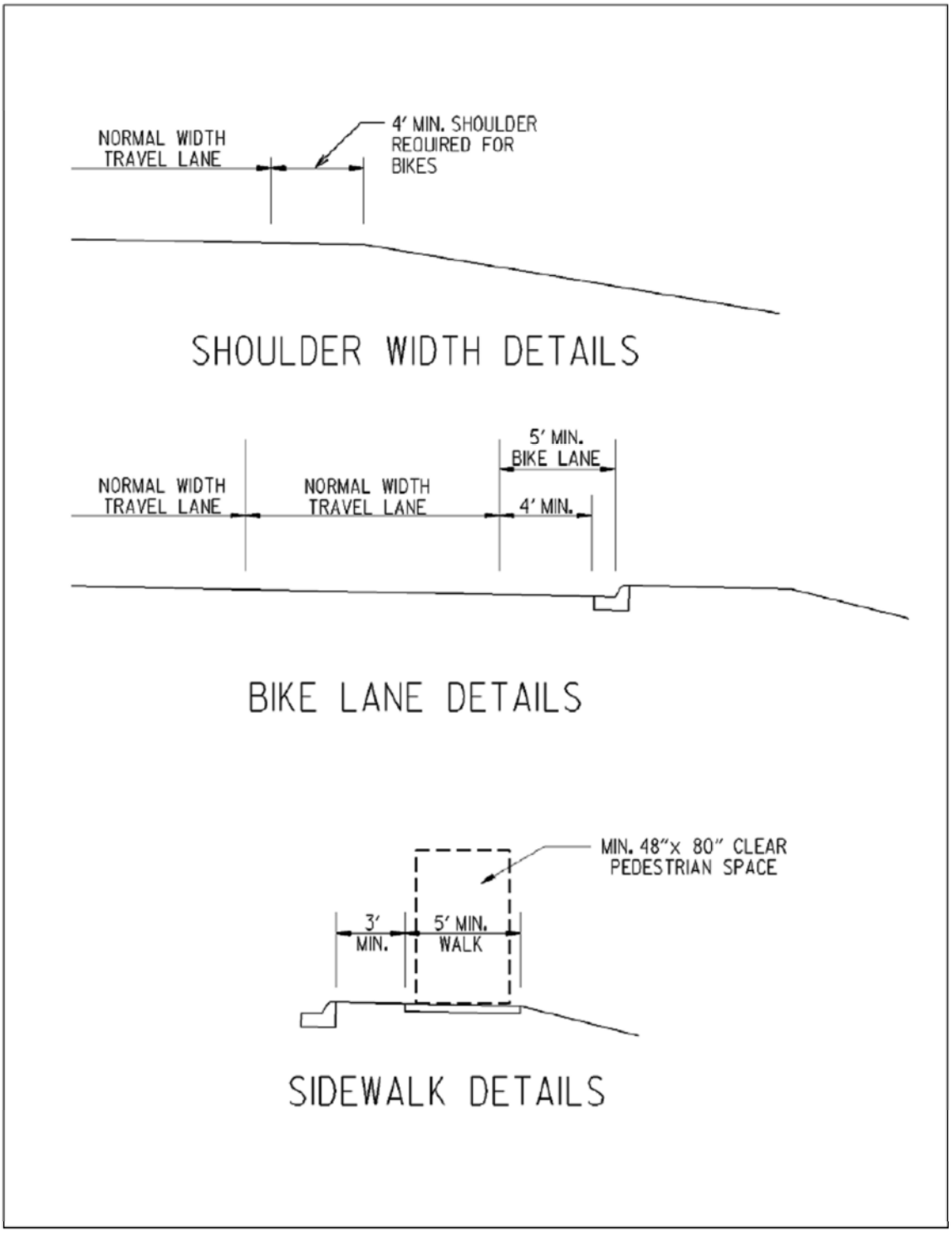
1. When curb and gutter sections are proposed along a highway with existing sidewalks, the sidewalks will be replaced in accordance with this policy.

2. When curb and gutter sections are proposed along a highway with no existing sidewalks, sidewalks will be constructed on both sides of the roadway in developed areas. In undeveloped areas, sidewalks will be considered on one side of the roadway unless evidence of pedestrian traffic warrants sidewalks on both sides of the roadway.

3. All sidewalk construction will conform to the latest edition of *the Americans with Disabilities Act Accessibility Guidelines* (ADAAG).

4. The minimum sidewalk width will be 5 feet, and the minimum offset from the back of the curb to the sidewalk edge will be 3 feet. No obstructions (mailboxes, signs, etc.) will be allowed in the sidewalk. The minimum vertical clearance to the bottom of any obstruction overhanging the sidewalk will be 80 inches.

5. If local or regional design standards specify pedestrian facility widths greater than the standards shown above, the additional right-of-way and construction costs associated with the greater width will normally be funded by the local jurisdiction that adopted the higher design standards.


NORMAL WIDTH
TRAVEL LANE
4' MIN. SHOULDER
REQUIRED FOR
BIKES
SHOULDER WIDTH DETAILS
NORMAL WIDTH
TRAVEL LANE
NORMAL WIDTH
TRAVEL LANE
5' MIN.
BIKE LANE
4' MIN.
BIKE LANE DETAILS
MIN. 48"x 80" CLEAR
PEDESTRIAN SPACE
3'
MIN.
5' MIN.
WALK
SIDEWALK DETAILS

D. City Plans

Bentonville

Bentonville adopted the Bentonville Master Trail Plan on February 2, 2006. The following trails contain 11.7 miles of trailway.

1. Downtown Trail
2. Burns Trail (Park Springs Park)
3. John De Shields Blvd. Trail
4. Lake Bella Vista Trail - 1.8 Miles
5. Memorial Park Fitness Trail
6. Moberly Lane Bike Trail
7. North Bentonville Trail – 2.8 miles
8. NE J St. Trail
9. Town Branch Park Trail
10. Walton Blvd. From I-540 to SW "A"
11. NE "J" St. From Central Ave. to Tiger Blvd.
12. SE "C" From 28th St. to Walton Blvd.
13. SE "C" From SE 18th St. to SE 22nd St.
14. SE "J" St. From Walton Blvd. to SE Plaza (developer)
15. Hwy 102/SW "I" -- new intersection

Fayetteville

Fayetteville adopted the Fayetteville Alternative Transportation and Trail Plan by resolution in September 2003. The following multi-use trails have been completed in the past five years:

1. Combs Trail - .78 mile
2. Dale Clark Park Trail - .6 mile
3. Frisco Trail - .4 mile
4. Gordon Long Trail - .6 mile
5. Gulley Park Trail – 1.5 miles
6. Lake Fayetteville Trail and spillway bridge – 1.2 miles
7. Mud Creek Trail – 2.1 miles
8. Raven Trail - .3 mile
9. Red Oak Trail - .2 mile
10. Town Branch Trail - .34 mile
11. Walker Park Trail – 1.2 miles
12. Wilson Park Trail - .9 mile

Springdale

The City formed a Trails Task Force in 2005 and is in the process of identifying possible trail locations and developing a master trails plan.

Rogers

The City adopted the Rogers Greenway Master Plan. The trails that have been identified are:

1. Turtle Creek – 12.02 miles
2. Blossom Way – 17.7 miles
3. Osage Creek – 9.1 miles
4. Mt. Hebron – 9 miles
5. Lake Atalanta – 3.8 miles

E. Funding Alternatives

A variety of funding sources are available for bicycle and pedestrian facilities. The following are excerpts from a summary by the US Department of Transportation addressing bicycle and pedestrian funding sources:

Bicycle and pedestrian projects are broadly eligible for funding from almost all the major Federal-aid highway, transit, safety, and other programs. Bicycle projects must be "principally for transportation, rather than recreation, purposes" and must be designed and located pursuant to the transportation plans required of states and MPOs.

Federal-aid Highway Programs

National Highway System funds may be used to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System, including Interstate highways.

Surface Transportation Program (STP) funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects (such as maps, brochures, and public service announcements) related to safe bicycle use and walking. TEA-21 adds "the modification of public sidewalks to comply with the Americans with Disabilities Act" as an activity that is specifically eligible for the use of these funds.

Ten percent of each state's annual STP funds are set-aside for **Transportation Enhancement Activities.** The law provides a specific list of activities that are eligible enhancement activities and this includes "provision of facilities for pedestrians and bicycles, provision of safety and educational activities for

pedestrians and bicyclists, " and the "preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails)."

Annual Fund Estimates for Long Range Planning supplied by AHTD indicate that $994,000 in enhancement funds is available annually in the NARTS Study Area for the years 2006-2030. These funds are made available through an application program.

Another 10 percent of each state's STP funds are set-aside for the **Hazard Elimination and Railway-Highway Crossing Programs**, which address bicycle and pedestrian safety issues. Each state is required to implement a Hazard Elimination Program to identify and correct locations that may constitute a danger to motorists, bicyclists, and pedestrians. Funds may be used for activities including a survey of hazardous locations and for projects on any publicly owned bicycle or pedestrian pathway or trail, or any safety-related traffic calming measure. Improvements to railway-highway crossings "shall take into account bicycle safety."

Recreational Trails Program funds may be used for all kinds of trail projects. Of the funds apportioned to a state, 30 percent must be used for motorized trail uses, 30 percent for nonmotorized trail uses, and 40 percent for diverse trail uses (any combination).

National Scenic Byways Program funds may be used for "construction along a scenic byway of a facility for pedestrians and bicyclists."

Job Access and Reverse Commute Grants are available to support projects, including bicycle-related services, designed to transport welfare recipients and eligible low-income individuals to and from employment.

High Priority Projects and Designated Transportation Enhancement Activities identified by TEA-21 include numerous bicycle, pedestrian, trail, and traffic calming projects in communities throughout the country.

Federal Transit Program

Title 49 U.S.C. (as amended by TEA-21) allows the **Urbanized Area Formula Grants, Capital Investment Grants and Loans,** and **Formula Program for Other than Urbanized Area** transit funds to be used for improving bicycle and pedestrian access to transit facilities and vehicles. Eligible activities include investments in "pedestrian and bicycle access to a mass transportation facility" that establishes or enhances coordination between mass transportation and other transportation.

TEA-21 also created a **Transit Enhancement Activity** program with a one percent set-aside of Urbanized Area Formula Grants funds designated for, among other things, pedestrian access and walkways, and "bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on mass transportation vehicles".

Highway Safety Programs

Pedestrian and bicyclist safety remain priority areas for **State and Community Highway Safety Grants** funded by the Section 402 formula grant program. A state is eligible for these grants by submitting a Performance Plan (establishing goals and performance measures for improving highway safety) and a Highway Safety Plan (describing Activities to achieve those goals).

Research, development, demonstrations and training to improve highway safety (including bicycle and pedestrian safety) is carried out under the Highway Safety Research and Development (Section 403) program.

Federal/State Matching Requirements

In general, the Federal share of the costs of transportation projects is 80 percent with a 20 percent state or local match. However, there are a number of exceptions to this rule.

- Federal Lands Highway projects and Section 402 Highway Safety funds are 100 percent Federally funded.
- Bicycle-related Transit Enhancement Activities are 95 percent Federally funded.
- Hazard elimination projects are 90 percent Federally funded. Bicycle-related transit projects (other than Transit Enhancement Activities) may be up to 90 percent Federally funded.
- Individual Transportation Enhancement Activity projects under the STP can have a match higher or lower than 80 percent. However, the overall Federal share of each state's Transportation Enhancement Program must be 80 percent.
- States with higher percentages of Federal Lands have higher Federal shares calculated in proportion to their percentage of Federal lands.
- The Federal and/or local funds used to match Federal-aid highway projects may include in-kind contributions (such as donation). In some cases, funds from other Federal programs may also be used to match Transportation Enhancement, Scenic Byways, and Recreational Trails program funds. A Federal agency project sponsor may provide matching funds to Recreational Trails funds provided the Federal share does not exceed 95 percent.

CHAPTER VIII INTERMODAL FACILITIES/FREIGHT

The Regional Transportation Goal of the 2030 Northwest Arkansas Regional Transportation Plan states the need to:

"Provide a comprehensive intermodal transportation system which most efficiently serves the human and economic needs of the metropolitan area and Northwest Arkansas region."

This concept was further expanded in the Vision Statement, with a goal of:

"Increasing transportation mobility and accessibility for both persons and freight, thus promoting the economic vitality in the region. This goal is to be realized by supporting an integrated system with efficient connections between transportation modes"

Connections facilitating the transfer between modes of both people and goods are the essential elements of the intermodal concept.

Airports

There are 5 municipal airports serving the cities of Northwest Arkansas:
Fayetteville
Springdale
Rogers
Bentonville
Siloam Springs

XNA Regional Airport

In the late nineties a regional airport was established. XNA, located in Highfill, is the major commercial airport serving the region. The XNA Airport opened for commercial passenger business on November 1, 1998. The geographic terrain where the airport is located provides facilities for regional and larger jet aircraft to operate.

The Northwest Arkansas Regional Airport Authority operates the airport. NWARAA is comprised of five cities and two counties. The cities, Bentonville, Fayetteville, Rogers, Siloam Springs and Springdale each appoint two members to the Board of Directors, as do Benton and Washington County. The Board of Directors mission is to build, operate and maintain the runways, structures, roadways, staff and finances required to operate a modern aviation facility.

The site of the airport is centrally located within close proximity to all the communities of Northwest Arkansas while also being far enough away from populated areas so as to minimize any adverse impact from aircraft operations.

The access to the new airport is provided from I-540 on Highway 264 at the Lowell exit and from Bentonville on Highway 12.

The Authority is working with the State Highway Department on a new, direct access from the bypass to the airport. Congressman Asa Hutchinson included $16 million for the airport access road in the Federal highway legislation enacted in 1998. In an effort to expedite construction of the new access road, the Authority is exploring the issuance of bonds to cover the cost of construction and the local match for the Federal grant. The bonds would be repaid with funds received from the Federal appropriation and the collection of a toll for traffic using the access road. This "Airport Access Road" is an essential component of the regional transportation network. With the February 2006 Federal Record of Decision regarding the route of the Highway 412 Springdale Northern Bypass the Access Road also gained a major milestone since the road will link to the new Springdale bypass.

Motor Freight

Northwest Arkansas is the home to several major trucking companies such as J.B. Hunt and Willis Shaw. Large retailers also include Wal-Mart and Tyson. Freight movement is essential to the economy of Northwest Arkansas and the transportation infrastructure will need to accommodate the movement of goods in and out of the region. The AHTD conducted a freight survey to gather data for the developing travel demand model. This information will aid future plan updates to address the needs of the motor freight industry.

Rail

The Northwest Arkansas region is served by two railroads. The Arkansas and Missouri Railroad and the Kansas City Southern. AHTD is conducting a route study to examine a possible route linking the Kansas City Southern line to the XNA Airport.

Transit

Razorback Transit
Ozark Regional Transit

Two transit agencies serve Northwest Arkansas. These agencies are covered in detail in the Transit Chapter of this document. Regarding intermodal facilities, Razorback Transit operates an intermodal facility on the U of A campus that includes a parking garage and bus service. This facility provides intermodal access for pedestrians as well as automotive and bus commuters.

CHAPTER IX TRANSIT AND TRANSPORTATION ALTERNATIVES

A. Transit

1. Introduction

Transit facilities are also included in the 2030 Northwest Arkansas Regional Transportation Plan. Public and private transit facilities will make our region more accessible to those who have no means of transportation. This includes the young, elderly, disabled and all others without means of personal transportation, or simply those who do not wish to drive a private vehicle. Transit can serve more people while causing less traffic congestion. As it reduces dependence upon the automobile, it also increases job opportunities to those without automobiles. Transit options can provide safe routes to work, school and neighborhood shopping.

The NARTS area has several transit programs including Razorback Transit, Ozark Regional Transit, and the City Taxi/Bus Transit Program (formerly known as the Elderly Taxi Program). Clearly, with an increasing population base that needs transit as an effective means to travel to and from work and play, it is imperative that the region takes the necessary steps to effectively meet the needs of area citizens.

Funding identified specifically for transit in the Estimated Funds Available for Long Range Planning supplied by AHTD consists of 5307 funds at an annual rate of $1,674,000,000 for the years 2006 through 2012. Funding levels after 2012 are uncertain due to the likelihood of the Northwest Arkansas area becoming a Transportation Management Area (TMA) based on the population of the Urbanized Area. This will change the funding formulas for the area and will be impacted by future Federal transportation bills. At this point in time 5307 funds are not available for transit operating costs for TMAs.

The following is a summary provided by the Federal Transit Administration on the programs available through TEA-21 for transit funds:

Transit Programs

TEA-21 provides for transit programs, with funding coming from both the Mass Transit Account of the Highway Trust Fund and the General Fund.

Formula Grants

Rural Transportation Accessibility Incentive Program. This program provides for over-the-road bus service. The purpose of the funding is to help public and private operators finance the incremental capital and training costs of complying with the DOT's final rule on accessibility of over-the-road buses.

Funding may be used for intercity fixed-route over-the-road bus service and other over-the-road service such as local fixed route, commuter, charter, and tour service. The Secretary will allocate available funding through a competitive grant selection process.

Clean Fuels Formula Grant Program. This program supports the global warming initiative by providing an opportunity to accelerate the introduction of advanced bus propulsion technologies into the mainstream of the Nation's transit fleets. Eligible projects include the purchasing or leasing of clean fuel buses and facilities, and the improvement of existing facilities to accommodate clean fuel buses. Clean fuel buses include those powered by compressed natural gas, liquefied natural gas, biodiesel fuels, batteries, alcohol-based fuels, hybrid electric, fuel cell, certain clean diesel, and other low or zero emissions technology. Available funds will be allocated among the eligible grant applications using a formula based on an area's non-attainment rating, number of buses, and bus passenger-miles.

Urbanized Area Formula Grant Program. Under this program, 91.23 percent of the funding is made available to all urbanized areas with a population of 50,000 or more. For urbanized areas with populations less than 200,000, funding may be used for either capital or operating costs. For urbanized areas with populations of 200,000 or more, the funding may also be used for preventive maintenance. Additionally, for these larger areas, at least one percent of the funding apportioned to each area must be used for transit enhancement activities such as historic preservation, landscaping, public art, pedestrian access, bicycle access, and enhanced access for persons with disabilities.

Formula Grant Program For Other Than Urbanized Areas. This program receives 6.37 percent of the funding available for apportionment in proportion to each Federal non-urbanized population. Funding may be used for capital, operating, Federal administration, and project administration expenses.

Formula Grant Program and Loans For Special Needs of Elderly Individuals and Individuals with Disabilities. This program receives 2.4 percent of formula funding available and is apportioned based on each Federal share of population for these groups of people.

Capital Investment Grants

New Starts. The Secretary is to evaluate and rate New Starts projects as "highly recommended", "recommended", and "not recommended". In evaluating projects, the Secretary is to consider the following factors: population density and current transit ridership in the corridor; the technical capability of the grant recipient to construct the project; and factors that reflect differences in local land, construction, and operating costs.

Bus. Funding is provided for bus and bus-related facilities.

Transit Benefits

TEA-21 changed the Internal Revenue Code to help level the playing field between parking benefits and transit/vanpool benefits. The limit on nontaxable transit and vanpool benefits was increased. In addition, the bill allows transit and vanpool benefits to be offered in lieu of compensation payable to an employee, giving transit and vanpool benefits the same tax treatment given to parking benefits under the Taxpayer Relief Act of 1997.

The need for transit will continue to grow as the region develops. As the population of citizens who either cannot or choose not to restrict themselves to automobile use increases, the region has an obligation to meet their needs. Since many of the cities in the NARTS area are contiguous to each other, transit planning should be considered in a regional context. Also, transit must be considered with all modes of transportation in mind. Thusly, the 2030 Northwest Arkansas Regional Transportation Plan has recommended that transit oriented design practices be encouraged and all modes of transit alternatives and funding alternatives should be explored.

2. Razorback Transit/University of Arkansas

Long Range Transportation Planning

Razorback Transit originated in 1989, through the joint efforts of the University of Arkansas - Fayetteville (UA), the Arkansas State Highway and Transportation Department (AHTD) and the Metropolitan Planning Organization (MPO) of Northwest Arkansas. The nucleus for public mass transit in Fayetteville was a well developed and highly effective University of Arkansas Transit System established in 1979. In July 1990, UA/Razorback Transit became a directly operated public mass transit system with the Arkansas State Highway and Transportation Department as recipient and administrator of Federal transit grants. In July 2004, Razorback Transit became a direct recipient of Federal Transportation Administration (FTA) funds.

Razorback Transit is currently providing a successful public mass transit system. The University of Arkansas is centrally located within the City of Fayetteville and generates high ridership for public mass transit. Without this system, the UA campus area becomes the City's most congested area for both vehicular and pedestrian traffic. Any transit service improvement efforts should first consider expansion of the current fixed route system. Future expansion of transit services would require the purchase of additional transit buses. Prior to initiation of any new routes or expansion of current routes, new sources for local matching funds would need to be made available from non-UA sources.

Identified needs based on current population and projected growth in geographical locations within or adjacent to the current service area form a basis for service expansion or improvement. The current Razorback Transit system services, outlined in Table 1, will not be able to serve all projected ridership increases over the next five years.

Projected ridership for the year 2010, Table 2, in geographical locations within or adjacent to the Brown, Blue and Green routes indicates a change in service will be needed. Adding one additional bus to each route between 7 a.m. and 6 p.m. is proposed to address the additional demand. Two additional park and ride express routes, one to the north and one to the south of the campus, will need to be added to accommodate proposed enrollment growth. Full-time employees would be hired for the additional service hours. Short-range plans include equipment upgrades and replacements when needed.

The short-range capital improvement plan, shown in Table 3, allows for fixed route service expansion and is designed to accommodate the anticipated increase in annual ridership of 520,311 passengers, projected over the next five years.

Long Range Service Plan 2011-2030

Long range planning must be based upon the assumptions that all short-range goals have been realized and that new sources of local matching funds are provided to support any new transit service needs. Expansion of transit service is costly, especially for first year start-up. First year costs include expensive new buses, maintenance equipment and additional operational and maintenance staff. In succeeding years the operational costs would increase proportionately to local economic inflationary trends. Capital costs would also increase for bus and maintenance equipment replacement, based upon future national inflationary trends.

The UA/Razorback Transit currently has one fixed route (Red) that extends north on US 71B to the Northwest Arkansas Mall, approximately 1/8 of a mile south of the northern most boundary between the cities of Fayetteville and Springdale.

This route extends through the center of the two largest growth areas and its annual ridership has increased each year. It is conceivable that an additional north bound route to the east of this existing route would be beneficial to the general population of Fayetteville and the employees and students of the University. Two additional routes, both beginning at the Intermodal Transit Facility on campus and extending to southeast and southwest Fayetteville, would provide public transit service to currently under serviced areas. (See Table 4)

The long range Razorback Transit service and capital improvement plans are based upon the following assumptions:

1. FTA capital improvement funds remain available on an 80/20 cost share basis.
2. Local funds would be available to replace the loss of FTA operating funds in 2013 and subsequent years.
3. Local funds (other than solely from the UA) would be provided for any Razorback Transit service expansions beyond 2010.
4. Student transit fees remain in effect and increase as needed.
5. Additional budgeted staff positions would be approved in a timely manner for any expanded transit operations and maintenance requirements.
6. An increased number of transit vehicles for the fleet would be approved.
7. The current UA/Razorback Transit maintenance facility would be expanded, as needed, to allow for additional maintenance and bus parking space.
8. Short-range plans would be realized.

Projected additional fixed routes planned for 2011-2030:

1. Add one route originating at the Intermodal Transit Facility and proceeding generally to the northeast area of Fayetteville, with service implementation to be determined by major ridership generators.
2. Add one route originating at the Intermodal Transit Facility and proceeding generally to the southeast area of Fayetteville, with service implementation to be determined by major ridership generators.
3. Add one route originating at the Intermodal Transit Facility and proceeding generally to the southwest area of Fayetteville, with service implementation to be determined by major ridership generators.
4. Plan for other additional buses and fixed service routes, as determined by new ridership generators, population growth, actual need and available funding.
5. Table 4 outlines Total Service for the 20-year period.

Insufficient data projections preclude a proposed transit service plan beyond the year 2011. However, if the proposed service and capital improvements plan for FY 2006-2011 are realized and there is no expansion beyond the city limits of Fayetteville, the projected capital costs from 2011 through 2030 are depicted in Table 5.

It is expected that the University of Arkansas/Razorback Transit could manage and operate any expanded service, providing that all previously mentioned assumptions and all resources were realized.

RAZORBACK TRANSIT - TABLE 1

Current Razorback Transit System Services - FY 05

Route	Bus / Van	Route Miles	Round Trips	Daily Mileage	Headway Minutes	Route Operational Hours	Daily Bus Hours	Total Ridership FY 05
Green	*2*	*2.2*	*33*	*72.6*	*20*	*7 am - 6 pm*	*22*	*Ridership*
Green Relief	*1*	*2.2*	*6*	*13.2*	*20*	*7:30 am - 9:30 am*	*2*	*included*
Blue	*2*	*3.4*	*33*	*112.2*	*20*	*7 am - 6 pm*	*22*	*in totals*
Blue Relief	*1*	*3.4*	*6*	*20.4*	*20*	*7:30 am - 9:30 am*	*2*	*below*
Paratransit (P/T)	*2*				*N/A*	*7 am - 6 pm*	*22*	
P/T Relief	*1*				N/A	*Varied*		
Green Totals	**3**	**2.2**	**72**	**158.4**	**20**	*7 am - 6 pm*	**24**	**358,239**
Blue Totals	**3**	**3.4**	**72**	**244.8**	**20**	*7 am - 6 pm*	**24**	**337,542**
P/T Totals	**3**					*7 am - 6 pm*	**22**	**7,469**
Brown	**1**	**1.6**	**66**	**105.6**	**10**	*7 am - 6 pm*	**11**	**114,069**
Pomfret Express	**1**	**1.4**	**66**	**92.4**	**10**	*7 am - 6 pm*	**11**	**124,885**
Reid Express	**1**	**1.2**	**66**	**79.2**	**10**	*7 am - 6 pm*	**11**	**85,396**
Gray	**1**	**6**	**22**	**132**	**30**	*7 am - 6 pm*	**11**	**40,182**
Tan	**1**	**6.1**	**22**	**134.2**	**30**	*7 am - 6 pm*	**11**	**71,789**
Orange	**1**	**2.4**	**33**	**79.2**	**20**	*7 am - 6 pm*	**11**	**46,633**
Red	**1**	**15**	**10**	**150**	**60**	*7 am - 6 pm*	**10**	**56,563**
Lot 56 Express	**1**	**2**	**66**	**132**	**10**	*7 am - 6 pm*	**11**	**37,724**
Day Service Totals	**17**	**41.3**	**495**	**1307.8**			**157**	**1,280,491**
Green N. Reduced	**1**	**5.1**	**9**	**45.9**	**30**	*6 pm - 10:30 pm*	**4.5**	**10,328**
Blue N. Reduced	**1**	**6.7**	**9**	**60.3**	**30**	*6 pm - 10:30 pm*	**4.5**	**13,873**
Tan N. Reduced	**1**	**6.1**	**9**	**54.9**	**30**	*6 pm - 10:30 pm*	**4.5**	**5,207**
Red N. Reduced	**1**	**15**	**4**	**60**	**60**	*6 pm - 10 pm*	**4**	**7,973**
P/T 1 N. Reduced	**1**				**N/A**	*6 pm - 10:30 pm*	**4.5**	**181**
Night Service Totals	**5**	**32.9**	**31**	**221.1**			**22**	**37562**
Weekday Grand Totals	**22**	**74.2**	**526**	**1528.9**			**179**	**1,318,053**
Green Sat. Reduced	**1**	**5.1**	**31**	**158.1**	**30**	*7 am - 10:30 pm*	**15.5**	**2,312**
Blue Sat. Reduced	**1**	**6.7**	**31**	**207.7**	**30**	*7 am - 10:30 pm*	**15.5**	**810**
Tan Sat. Reduced	**1**	**6.1**	**31**	**189.1**	**30**	*7 am - 10:30 pm*	**15.5**	**671**
Red Sat. Reduced	**1**	**15**	**14**	**210**	**30**	*7 am - 10 pm*	**14**	**4,455**
P/T 1 Sat. Reduced	**1**				**N/A**	*7 am - 10:30 pm*	**15.5**	**349**
Sat. Service Totals	**5**	**32.9**	**107**	**764.9**			**76**	**8,597**
Totals	**27**	**107**	**633**	**2,294**			**255**	**1,326,650**

RAZORBACK TRANSIT - TABLE 2

Short Range Service Plan - Projections

Fiscal Years 2006 through 2010 - Changes

Route	Bus / Van	Route Miles	Round Trips	Daily Mileage	Headway Minutes	Route Operational Hours	Daily Bus Hours	Estimated Ridership FY 2010
Green	*3*	*2.2*	*33*	*72.6*	*20*	*7 am - 6 pm*	*33*	*Estimated*
Green Relief	*1*	*2.2*	*6*	*13.2*	*20*	*7:30 am - 9:30 am*	*2*	*ridership*
Blue	*3*	*3.4*	*33*	*112.2*	*20*	*7 am - 6 pm*	*33*	*included*
Blue Relief	*1*	*3.4*	*6*	*20.4*	*20*	*7:30 am - 9:30 am*	*2*	*in totals*
Brown	*2*	*1.6*	*66*	*105.6*	*10*	*7 am - 6 pm*	*22*	below
Paratransit (P/T)	*4*				*N/A*	*7 am - 6 pm*	*44*	
Green Totals	**4**	**2.2**	**105**	**231**	**20**	*7 am - 6 pm*	**35**	**477,652**
Blue Totals	**4**	**3.4**	**105**	**357**	**20**	*7 am - 6 pm*	**35**	**450,056**
Brown Totals	**2**	**1.6**	**132**	**211.2**	**10**	*7 am - 6 pm*	**22**	**228,138**
P/T Totals	**4**			**0**	**N/A**	*7 am - 6 pm*	**44**	**9,958**
Pomfret Express	**1**	**1.4**	**66**	**92.4**	**10**	*7 am - 6 pm*	**11**	**143,617**
Reid Express	**1**	**1.2**	**66**	**79.2**	**10**	*7 am - 6 pm*	**11**	**98,205**
Gray	**1**	**6**	**22**	**132**	**30**	*7 am - 6 pm*	**11**	**46,209**
Tan	**1**	**6.1**	**22**	**134.2**	**30**	*7 am - 6 pm*	**11**	**82,557**
Orange	**1**	**2.4**	**33**	**79.2**	**20**	*7 am - 6 pm*	**11**	**53,627**
Red	**1**	**15**	**10**	**150**	**60**	*7 am - 6 pm*	**11**	**65,047**
Lot 56 Express	**1**	**2**	**66**	**132**	**10**	*7 am - 6 pm*	**11**	**43,382**
N. Lot Express	**1**	TBD	TBD	TBD	TBD	*7 am - 6 pm*	**11**	**45,000**
S. Lot Express	**1**	TBD	TBD	TBD	TBD	*7 am - 6 pm*	**11**	**45,000**
Day Service Totals	**23**	**41.3**	**627**	**1598.2**			**235**	**1,788,448**
Green N. Reduced	**1**	**5.1**	**9**	**45.9**	**30**	*6 pm - 10:30 pm*	**4.5**	**11,360**
Blue N. Reduced	**1**	**6.7**	**9**	**60.3**	**30**	*6 pm - 10:30 pm*	**4.5**	**15,260**
Tan N. Reduced	**1**	**6.1**	**9**	**54.9**	**30**	*6 pm - 10:30 pm*	**4.5**	**5,727**
Red N. Reduced	**1**	**15**	**4**	**60**	**60**	*6 pm - 10 pm*	**4**	**8,770**
N. Lot Express	**1**	TBD	TBD	TBD	TBD	*6 pm - 10:30 pm*	**4.5**	**2,500**
S. Lot Express	**1**	TBD	TBD	TBD	TBD	*6 pm - 10:30 pm*	**4.5**	**2,500**
P/T 1 N. Reduced	**1**				**N/A**	*6 pm - 10:30 pm*	**4.5**	**199**
Night Service Totals	**7**	**32.9**	**31**	**221.1**			**31**	**46,316**
Weekday Grand Totals	**30**	**74.2**	**658**	**1819.3**			**266**	**1,834,764**
Green Sat. Reduced	**1**	**5.1**	**31**	**158.1**	**30**	*7 am - 10:30 pm*	**15.5**	**2,543**
Blue Sat. Reduced	**1**	**6.7**	**31**	**207.7**	**30**	*7 am - 10:30 pm*	**15.5**	**2,420**
Tan Sat. Reduced	**1**	**6.1**	**31**	**189.1**	**30**	*7 am - 10:30 pm*	**15.5**	**1,936**
Red Sat. Reduced	**1**	**15**	**14**	**210**	**30**	*7 am - 10 pm*	**14**	**4,900**
P/T 1 Sat. Reduced	**1**				**N/A**	*7 am - 10:30 pm*	**15.5**	**398**
Sat. Service Totals	**5**	**32.9**	**37.9**	**764.9**			**76**	**12,197**
Totals	**35**	**107**	**696**	**2,584**			**342**	**1,846,961**

Table 3

Razorback Transit
Capital Improvement Program 2006-2010

Description	FTA Funds	UA/Razorback Transit Funds	Comments
Purchase 5 new Buses	$1,120,000	$280,000	To replace existing buses which have reached the end of their useful life
Purchase 4 paratransit vans	$144,000	$36,000	3 replacement vans for vehicles which have reached the end of their useful life and 1 for expanded service
Purchase 1 supervisory vehicle	$20,000	$5,000	Replacement
Administration Equipment	$20,000	$5,000	Replacement computers and office equipment
Maintenance Shop Equipment	$20,000	$5,000	New and replacement tools and equipment
Bus Capital Equipment	$90,000	$22,500	New engines, transmissions, A/C and updates
Totals	$1,414,000	$353,500	

RAZORBACK TRANSIT - TABLE 4

Long Range Service Plan - Projections

Fiscal Years 2011 through 2030 - Changes

Route	Bus / Van	Route Miles	Round Trips	Daily Mileage	Headway Minutes	Route Operational Hours	Daily Bus Hours	Projected Ridership FY 2030
Green	*3*	*2.2*	*33*	*72.6*	*20*	*7 am - 6 pm*	*33*	*Projected*
Green Relief	*1*	*2.2*	*6*	*13.2*	*20*	*7:30 am - 9:30 pm*	*2*	*ridership*
Blue	*3*	*3.4*	*33*	*112.2*	*20*	*7 am - 6 pm*	*33*	*included in*
Blue Relief	*1*	*3.4*	*6*	*20.4*	*20*	*7:30 am - 9:30 pm*	*2*	*totals*
Brown	*2*	*1.6*	*66*	*105.6*	*10*	*7 am - 6 pm*	*22*	below
Paratransit (P/T)	*4*				*N/A*	*7 am - 6 pm*	*44*	
Green Totals	**4**	**2.2**	**105**	**198**	**20**	*7 am - 6 pm*	**35**	**525,417**
Blue Totals	**4**	**3.4**	**105**	**238.2**	**20**	*7 am - 6 pm*	**35**	**495,061**
Brown Totals	**2**	**1.6**	**132**	**211.2**	**10**	*7 am - 6 pm*	**22**	**250,951**
P/T Totals	**7**					*7 am - 6 pm*	**77**	**19,916**
Pomfret Express	**1**	**1.4**	**66**	**92.4**	**10**	*7 am - 6 pm*	**11**	**157,978**
Reid Express	**1**	**1.2**	**66**	**79.2**	**10**	*7 am - 6 pm*	**11**	**108,025**
Gray	**1**	**6**	**22**	**132**	**30**	*7 am - 6 pm*	**11**	**50,829**
Tan	**1**	**6.1**	**22**	**134.2**	**30**	*7 am - 6 pm*	**11**	**90,812**
Orange	**1**	**2.4**	**33**	**79.2**	**20**	*7 am - 6 pm*	**11**	**58,989**
Red	**1**	**15**	**10**	**150**	**60**	*7 am - 6 pm*	**10**	**71,551**
Lot 56 Express	**1**	**2**	**66**	**132**	**10**	*7 am - 6 pm*	**11**	**47,720**
N. Lot Express	**1**	TBD	TBD	TBD	TBD	*7 am - 6 pm*	**11**	**49,500**
S. Lot Express	**1**	TBD	TBD	TBD	TBD	*7 am - 6 pm*	**11**	**49,500**
NE Route	**1**	TBD	TBD	TBD	TBD	*7 am - 6 pm*	**11**	**50,000**
SE Route	**1**	TBD	TBD	TBD	TBD	*7 am - 6 pm*	**11**	**50,000**
SW Route	**1**	TBD	TBD	TBD	TBD	*7 am - 6 pm*	**11**	**50,000**
Day Service Totals	**29**	**41.3**	**627**	**1446.4**			**300**	**2,126,249**
Green N. Reduced	**1**	**5.1**	**9**	**45.9**	**30**	*6 pm - 10:30 pm*	**4.5**	**12,496**
Blue N. Reduced	**1**	**6.7**	**9**	**60.3**	**30**	*6 pm - 10:30 pm*	**4.5**	**16,786**
Tan N. Reduced	**1**	**6.1**	**9**	**54.9**	**30**	*6 pm - 10:30 pm*	**4.5**	**6,299**
Red N. Reduced	**1**	**15**	**4**	**60**	**60**	*6 pm - 10 pm*	**4**	**9,647**
N. Lot Express	**1**	TBD	TBD	TBD	TBD	*6 pm - 10:30 pm*	**4.5**	**2,750**
S. Lot Express	**1**	TBD	TBD	TBD	TBD	*6 pm - 10:30 pm*	**4.5**	**2,750**
NE Route	**1**	TBD	TBD	TBD	TBD	*6 pm - 10:30 pm*	**4.5**	**4,000**
SE Route	**1**	TBD	TBD	TBD	TBD	*6 pm - 10:30 pm*	**4.5**	**4,000**
SW Route	**1**	TBD	TBD	TBD	TBD	*6 pm - 10:30 pm*	**4.5**	**4,000**
P/T N. Reduced	**2**				**N/A**	*6 pm - 10:30 pm*	**9**	**398**
Night Service Totals	**11**	**32.9**	**31**	**221.1**			**49**	**63,126**
Weekday Grand Totals	**40**	**74.2**	**658**	**1667.5**			**349**	**2,189,375**
Green Sat. Reduced	**1**	**5.1**	**31**	**158.1**	**30**	*7 am - 10:30 pm*	**15.5**	**2,797**
Blue Sat. Reduced	**1**	**6.7**	**31**	**207.7**	**30**	*7 am - 10:30 pm*	**15.5**	**2,662**
Tan Sat. Reduced	**1**	**6.1**	**31**	**189.1**	**30**	*7 am - 10:30 pm*	**15.5**	**2,129**
Red Sat. Reduced	**1**	**15**	**14**	**210**	**30**	*7 am - 10 pm*	**14**	**5,390**
NE Route	**1**	TBD	TBD	TBD	TBD	*7 am - 10:30 pm*	**15.5**	**1,650**
SE Route	**1**	TBD	TBD	TBD	TBD	*7 am - 10:30 pm*	**15.5**	**1,650**
SW Route	**1**	TBD	TBD	TBD	TBD	*7 am - 10:30 pm*	**15.5**	**1,650**
P/T Sat. Reduced	**2**				**N/A**	*7 am - 10:30 pm*	**15.5**	**796**
Sat. Service Totals	**9**	**32.9**	**107**	**764.9**			**122.5**	**18,724**
Totals	**49**	**107**	**765**	**2,432**			**472**	**2,208,099**

Table 5

Razorback Transit
Capital Improvement Program 2011-2030

Description	FTA Funds	UA/Razorback Transit Funds	Local Share Source	Comments
Purchase 20 new Buses	$5,080,000	$1,270,000	UA	To replace existing buses which have reached the end of their useful life
Purchase 3 new Buses	$784,500	$196,125	City or Other Agency	To start new routes
Purchase Route Accessories	$18,000	$4,500	City or Other Agency	New
Expand Current Maintenance Facility and Parking Area	$800,000	$200,000	UA, City and Other Agency	
Purchase 28 paratransit vans	$1,232,000	$308,000	UA	To replace existing vans which have reached the end of their useful life
Purchase 8 paratransit vans	$352,000	$88,000	City or Other Agency	To serve new routes
Purchase 4 supervisory vehicles	$112,000	$28,000	UA, City and Other Agency	Replacement and new
Purchase 2 maintenance vehicles	$56,000	$14,000	UA, City and Other Agency	Current fleet replacement
Administration Equipment	$64,000	$16,000	UA	New and replacement computers and office equipment
Maintenance Shop Equipment	$80,000	$20,000	UA	New and replacement tools and equipment
Bus Capital Equipment	$400,000	$100,000	UA, City and Other Agency	New engines, transmissions, A/C and updates
Totals	$8,978,500	$2,244,625		

3. Ozark Regional Transit

Background

Ozark Regional Transit (ORT) began operations in Northwest Arkansas in 1979 under the direction of Community Resources Group (CRG), a local non-profit organization. In 2001, CRG announced that they wanted to get out of the transportation business. At that time, the Mayors of Bentonville, Fayetteville, Springdale, and Rogers as well as the County Judges of Benton, Carroll, Madison and Washington formed a Board to take over the oversight of ORT. One of their first acts as a Board was to hire a professional transit management firm, and First Transit was hired to manage the system.

Until 2001, ORT provided only dial-a-ride services in this area, predominately to support the health and human services agencies. ORT received rural FTA funding starting in 1980. With the tremendous growth in Northwest Arkansas, in 1990, the Fayetteville/Springdale metropolitan area became an urbanized area and ORT began receiving FTA financial assistance for urbanized areas over 50,000 in population. In 2002, the urbanized area FTA funding increased from a total of $750K to $1.7M, which is currently split between ORT and Razorback Transit, which serves the University of Arkansas students. Currently, ORT receives funding from the FTA in rural and urban funding, a Federal rental car tax and the local match to FTA monies from the cities and counties it serves. This local funding has increased under the current management from $100K to over $750K since 2001.

Current Services Operated

ORT operates 14 dial-a-ride routes in the Benton, Carroll, Madison and Washington counties. In 2002, ORT began its first fixed route in south Fayetteville. In 2005, it began six new fixed routes, with two in Fayetteville, Rogers and Springdale, and one in Bentonville. Due to un-funded requests, one route was dropped in Rogers in 2006. One new route was added in 2006 in the city of Lowell, connecting Bentonville/Rogers and Springdale. At the time of this report, ORT operates 7 fixed routes, with two in Fayetteville, two in Springdale, one in Lowell, Bentonville and Rogers. This is the first “regional” transit service in the history of Northwest Arkansas. Currently ORT is engaged in discussions with elected officials concerning expanding transit services in four additional cities in Benton and Washington Counties. In 2006, the Board expanded to include the city of Lowell. Last year, (2005) ORT operated a total of 1,181,667 passenger miles. It carried 23,754 passengers on fixed routes with a total of 6,715 revenue hours, and 84,186 passengers on dial-a-ride services with a total of 36,626 revenue hours. The total revenue hours are 43,341.

Due to requested funding not being met in 2006, Saturday service was eliminated, leaving only weekday service.

Anticipated Future Services

Several studies (Shelton in 2001, The United Way Report Card in 2003) have indicated that there is a tremendous need for an expanded transit system. The United Way report surveyed 500 directors and staff members of the health and human services programs in Northwest Arkansas, and 69% of them indicated that transportation was a significant barrier to the public trying to access their services.

The biggest barrier to increased transit services in Northwest Arkansas is local funding. Comparison to peer communities in terms of size indicates our local funding is about 10% of their levels. With the aforementioned local funding request of various cities falling short this year, the only way to make up this difference is a dedicated local funding source. The only option available under current Federal statue is a local sales tax, levied at the county level.

$1.7M is currently allocated from the Federal Transit Administration for transit in NWA, and is split between Razorback and ORT at about a 45/55% level. While this level will go up after the 2010 census, BOTH systems will have a common problem: The money currently used for operations will be shifted to capital and preventative maintenance. Without a dedicated local funding replacement, both systems will have to drastically reduce service on the street to the order of 40-50% from today's current levels.

If a dedicated funding source is implemented, such as a local sales tax, NWA could have a decidedly different look in terms of transportation as well as quality of life. Commuter Express buses on the I-540 corridor, more fixed routes that would cover all of the urbanized area, with frequency of 20-30 minutes wait times during peak travel times, shuttles from outlying areas into the urbanized area, ride matching, van pools and more dial-a-ride service, as well as implementing Intelligent Transportation Systems for transit, such as Automatic Vehicle Locaters (AVL) and Mobile Data Terminals (MDT), and message signs announcing times of bus arrival. Other improvements would include Park and Ride lots for commuter express, bus benches and bus shelters on busy routes, passenger transfer facilities (where multiple routes meet and allow passengers to transfer, similar to airlines hub systems). The reason for the improvement in quality of life issues is this change would allow NWA residents better access to educational facilities, health care, and employment opportunities, and allow employers access to a larger pool of workers. Additionally, to would allow users of public transit to spend less of their disposable income on travel and lessen the need for infrastructure.

It should be a foregone conclusion that NWA can never build enough roads for vehicular travel. It is time to consider the lessons of major cities within the USA and Europe that a robust public transit system is overdue here. In light of recent gas prices and the sure return of them, what will the ordinary citizen do if they cannot afford to drive, and there isn't a viable public transit system?

4. City Taxi/Bus Transit Program

The Northwest Arkansas Regional Planning Commission (NWARPC) developed the area's first City Taxi/Bus Transit Program for the City of Springdale in 1983. After the great success of this Program, subsequent Programs were developed for Fayetteville, Siloam Springs, Bentonville, and Rogers. Twenty-three years later, these Programs continue to meet the mobility needs of senior citizens throughout Northwest Arkansas. Each city provides a monthly-allocated number of coupons to approved participants. The participants use the taxi service in the normal way, except at the end of the trip they pay any fare difference over the coupon(s) amount. At the end of the month, the City reimburses the taxi companies for approved coupons collected.

There were several program additions and modifications made during 2005 to meet the growing demand for both para-transit and fixed transit. Ozark Regional Transit began accepting coupons in the same manner as the local taxi companies. ORT offers both fixed routes and para-transit trips. The Program participants now have expanded options. In addition, the City of Fayetteville issued coupons to Hurricane Katrina evacuees without regard to age to run during a stipulated period.

The NWARPC computerizes taxi logs and related data. The member cities are given year-end reports detailing ridership and cost related data. Questionnaires received from program participants are evaluated to measure Program quality and insure that the most efficient service is in place. The NWARPC believes that the ability to provide this documentation and high level of program "accountability" has been essential as city leaders continue to fund and implement these worthy Programs.

The resounding message from the elderly riders expresses their need for transportation to doctor's offices, grocery stores, and basic living sources. In addition, the riders express their appreciation for the sense of security and independence the Program gives them.

These Programs have been highly successful. Current Program providers are committed to continue this worthy and much needed Program for the senior citizens of Northwest Arkansas. The cities are strongly committed to this service. Changes will be made as growth and issues warrant.

B. Transportation Alternatives

1. Introduction

There are many transportation alternatives to the privately operated automobile for helping to meet transportation needs. Many of these alternative modes, with appropriate planning, work in conjunction with each other. Should Northwest Arkansas undertake a "Transportation Alternatives Analysis", all the transportation concepts should be studied and, if possible, studied in relationships with each other. The following represent some major transportation alternatives with a brief description that could be considered in an alternatives analysis.

2. Bus Rapid Transit (BRT)

BRT encompasses a broad variety of modes, including those known or formerly known as express buses, limited busways and rapid busways. What is now called bus rapid transit first got major impetus in the United States with the rise of Federal funding for urban mass transportation during the 1960s. Bus rapid transit targets the same segment of the transit market as light rail transit. Proponents say it combines the rapidity of a rapid transit or light rail line with the flexibility of buses.

Given the I-540 corridor that connects Northwest Arkansas in a north-south direction, bus rapid transit may be feasible with park-and-ride and conventional bus feeder systems.

For detailed information see: www.gobrt.org and
http://www.vtpi.org/tdm/tdm120.htm

3. Park and Ride Infrastructure

Park & Ride consists of parking facilities at transit stations, bus stops and highway onramps, particularly at the urban fringe, to facilitate Transit and Rideshare use. Some include Bicycle Parking. Parking is generally free or significantly less expensive than in urban centers. Park & Ride facilities are usually implemented by regional transportation or transit agencies. In some cases, existing, underutilized parking (such as a mall parking lot) is designated for Park & Ride use. Patrols and lighting are sometimes provided to address security concerns that users may have about leaving their vehicles at such a location.

Northwest Arkansas might explore the possibility of using under and unused parking lots located at or near transit stops.

For more information see: http://www.vtpi.org/tdm/tdm27.htm

4. Passenger Rail

There are a variety of passenger rail options that a long range transportation alternatives analysis should not overlook.

a. Light Rail: *Light Rail Transit* (LRT, also called *trams* or *trolleys*) systems provide convenient local public transit service on busy urban corridors, connecting major destinations such as central business districts, medical centers, campuses and entertainment centers. LRT vehicles tend to have relatively smooth and comfortable operation, easy boarding, attractive station areas, and easy-to-understand routes and schedules. Many rail systems have quick loading and Transit Priority features (grade separation and traffic signal preemption) to maximize travel speeds and minimize congestion delay. They are often supported with convenient user information (many city maps show rail transit routes and stations) and other Transit Encouragement strategies to increase ridership.

Light Rail Transit both requires and supports Smart Growth land use policies. LRT systems are often implemented in conjunction with Transit Oriented Development (common destinations are located within convenient walking distance of transit stations). Rail Transit stations provide a catalyst for creating compact, mixed, walkable urban centers (often called *Transit Villages* or *Transit Centers*). Where this occurs, Light Rail increases accessibility (land use patterns that minimize distances between common destinations and maximize transport system diversity) rather than just *mobility* (the physical movement of people). As a result, well-planned Light Rail Transit systems can provide additional benefits associated with more accessible land use.

Like any transit service, the travel impacts of Light Rail services depend on various factors including the quality of service, fares and user incentives (such as Commuter Financial Incentives), marketing, and the degree to which land use policies support transit (Transit Evaluation). Various Transit Encouragement strategies can increase ridership.

In Northwest Arkansas a light rail support group, Greenway, LLC, commissioned Beta-Rubicon, Inc. to undertake a pre-feasibility study on the potential for a light rail system for the region. A public forum was held on the subject on November 16, 2005. The group is promoting a Rail-based Transit feasibility study.

b. Heavy Rail: The term “heavy rail” is often used for regular railways, to distinguish from systems such as trams/light rail and metro. Heavy rail typically refers to the standard inter-city rail network, which is built to be robust enough for heavy and high-speed trains, including freight trains, and long distance and high speed passenger trains. Heavy rail is almost always built on its own dedicated right of way and is separate from road traffic. This distinguishes it from light rail

which is built to lightweight construction, carries lightweight trains or trams and which is usually intended for passenger traffic only, usually around cities.

c. Monorail: A monorail is a metro or railroad with a track consisting of a single rail (actually a beam), as opposed to the traditional track with two parallel rails. Monorail vehicles are **wider** than the beam they run on. There are two main types of monorail systems. In *suspended monorails*, the train is located under the track, suspended from above. In the more popular *straddle-beam monorail*, the train straddles the rail, covering it on the sides. There is also a form of *suspended monorail* that places the wheels inside the rail.

Modern monorails are powered by electric motors and generally have tires, instead of metal wheels, which are found on subway, streetcar (tram), and light rail trains. These wheels roll along the top and sides of the rail to propel and stabilize the train. Most modern monorail systems employ switches to move cars between multiple lines or permit two-way travel. Some early monorail systems--notably the suspended monorail of Wuppertal (Germany), dating from 1901 and still in operation--have a design that makes it difficult to switch from one line to another. This limitation of the Wuppertal monorail still comes up at times in discussions of monorails despite that fact for both the suspended and straddle-beam type monorails the problem has been overcome. For more information see: www.monorails.org

d. Ultra-light Monorail / Personal Rapid Transit (PRT): Personal Rapid Transit is a transport method in developmental stages that offers on-demand non-stop transportation between any two points on a network of specially built guideways. Most Personal Rapid Transit systems propose ultra-light monorail with small cabs that carry two to four passengers.

In Northwest Arkansas the PRT system, if shown to be operable, might be considered most feasible in Bentonville connecting the Wal-Mart campus areas.

For more information see: www.bettercampus.org and
http://kinetic.seattle.wa.us/prt.html

5. High Occupancy Vehicle (HOV) and High Occupancy Toll (HOT) lanes

HOV Priority refers to strategies that give priority to *High Occupant Vehicles* (also called Rideshare Vehicles), including transit buses, vanpools and carpools. Priority bus service is sometimes called Bus Rapid Transit. HOV Priority is a major component of many regional transportation demand management programs. Two, three or four occupants (indicated as 2+, 3+ or 4+) may be required to be considered an HOV, depending on circumstances. This is opposed to *Single Occupant Vehicles* (SOVs).

HOV Priority includes:

- HOV highway and arterial lanes. These are sometimes reversible (or counter flow" lanes), which means that they provide traffic capacity in the peak direction. Lanes open only to buses are called *busways*.
- High Occupancy Toll (HOT) lanes. These are HOV lanes that also allow low occupancy vehicles if they pay a toll, as described in Road Pricing.
- Busways, that is, special lanes dedicated to transit buses, often incorporating other features to insure high quality transit service.
- Queue-jumping lanes (other vehicles must wait in line to enter a highway or intersection, but HOVs enter directly).
- Intersection controls that give priority to HOVs. For example, a traffic light might be set to stay green for several extra seconds if that allows a bus to avoid stopping.
- Preferred parking spaces or parking fee discounts provided to rideshare vehicles (Parking Management).
- Special benefits to HOV riders, often included in commute trip reduction programs.

HOV Priority provides travel time savings, operating cost savings and increased travel reliability. HOV lanes typically provide time savings from 0.5-minute per mile on arterial streets up to 1.6-minutes per mile on congested freeways. Queue-jumper HOV facilities can provide savings up to 20 minutes (Pratt, 1999). Many travelers place a high value on these time savings, particularly if unpredictable delays are reduced.

HOV and HOT lanes could be considered for use on I-540 in Northwest Arkansas if and when it is expanded from the current four lanes to six and eight lanes.

6. Taxi Service Improvements

Taxi refers to for-hire automobile travel supplied by private companies. Taxi service is an important transportation option that meets a variety of needs,

including basic mobility in emergencies, general transportation for non-drivers, and mobility for tourists and visitors.

Taxi service can be an important backup option for other alternative forms of transport, such as allowing pedestrians to carry large loads back from a store, providing an emergency ride home when a cyclist has a medical or mechanical problem, or a guaranteed ride home for a rideshare or transit commuter. Informal taxi service often develops in rural communities where certain motorists will drive their neighbors for a fee. In this role, Taxi Improvements can be an important support for Transportation Demand Management efforts to reduce personal automobile ownership and use, and encourage use of alternative modes.

Taxi service can be improved by:

- Increasing the number of taxis in an area.
- Increasing the quality of taxi vehicles (comfort, carrying capacity, reliability, safety), improving support services (such as radio dispatch), driver skill and courtesy.
- Universal Design of taxi vehicles, including accommodating people in wheelchairs and with large packages.
- Reducing fares through regulation, competition, increased efficiency, incentives or subsidies.
- Allowing shared taxi trips (more than one passenger) and paratransit services.
- Providing taxi stands, curb access and direct telephone lines.

Taxi service is often regulated, with restrictions on market entry and pricing, although many communities are implementing regulatory reforms to encourage more competitive markets. Some experts recommend eliminating most regulations and allowing unlimited entry into the taxi market, but others argue that regulation should be structured to maximize service quality.

Taxi service improvements have relatively modest direct travel reduction impacts, although allowing shared taxis (more than one passenger per trip) may reduce some vehicle trips. Taxi improvements may actually increase total motor vehicle travel if it allows increased mobility by people who are transportation disadvantaged.

However, Taxi Improvements support use of alternative modes, including walking, cycling, ridesharing and transit use, by giving people who use those modes a better fallback option in emergencies. It can allow people to reduce their car ownership. In these ways, Taxi Improvements can contribute to relatively large reductions in vehicle travel. Experience with Guaranteed Ride Home programs indicates that improving the availability of fallback options can

significantly increase use of alternative modes. (See: www.vtpi.org for more information).

7. Transportation Demand Management (TDM)

Transportation Demand Management (TDM) is a general term for strategies that result in more efficient use of transportation resources**.** This document's Appendix E. presents a comprehensive compilation of transportation demand management information as presented by the Victoria Transport Policy Institute**.** It provides detailed information on dozens of demand management strategies, plus general information on TDM planning and evaluation techniques. (See: www.vtpi.org for more information).

Transportation Demand Management (TDM) (also known as *Mobility Management*) is a general term for various strategies that increase transportation system efficiency. TDM treats mobility as a means to an end, rather than an end in itself, and so helps individuals and communities meet their transport needs in the most efficient way, which often reduces total vehicle traffic. TDM prioritizes travel based on the value and costs of each trip, giving higher value trips and lower cost modes priority over lower value, higher cost travel, when doing so increases overall system efficiency. It emphasizes the movement of people and goods, rather than motor vehicles, and so gives priority to public transit, ridesharing and nonmotorized travel, particularly under congested urban conditions.

There are many different TDM strategies with a variety of transportation impacts. Some improve the transportation options available to consumers. Some cause changes in trip scheduling, route, destination or mode. Others reduce the need for physical travel through more efficient land use, or transportation substitutes. TDM is an increasingly common response to transport problems. Although most individual TDM strategies only affect a small portion of total travel, the cumulative impacts of a comprehensive TDM program can be significant. The Victoria Transportation Institute, a research organization that focuses on Transportation Demand Management, provides a long list of ways to manage transportation demand. This list is included in Appendix E. More information can be found at: http://www.vtpi.org/

C. Local Initiatives towards Transportation Alternatives

Throughout the development of the 2030 Northwest Arkansas Regional Transportation Plan update, local officials and the general public have expressed a great interest in transportation alternatives. Many of the alternative strategies described in the previous section will need careful and thorough examination, particularly with regard to meeting possible future travel demands in an efficient

and cost effective manner. One developing local initiative involves examining the possibility of commuter rail in Northwest Arkansas.

In late 2004, Greenway, LLC commissioned Beta-Rubicon, Inc. to undertake a pre-feasibility study to explore the potential for a light rail system for the region. One of the study's recommendations was for a public forum to be held for the purpose of building an informed public awareness of light rail. Subsequently, in November of 2005, the Northwest Arkansas Light Rail Transit System Public Forum was held in Springdale. The primary objectives of the Forum was the sharing and exchange of information so that all issues associated with the pursuance of such a system would be considered in a well-informed, comprehensive, and balanced fashion.

The forum led to an invitation from Congressman John Boozman for a delegation to travel to Washington, D.C. for a Northwest Arkansas Transit Symposium to be hosted by the Congressman, in conjunction with Senator Blanche Lincoln and Senator Mark Pryor. The invitation was accepted, and a group from Northwest Arkansas met with congressional delegation staff, an advisor to the Administrator of the Federal Transit Administration (FTA), and staffers from key congressional committees. A wealth of information was gained regarding FTA's transit programs and possible sources for funding the initiative's next step.

Specifically, the New Starts/Small Starts program was identified as the Federal government's primary financial resource for supporting transit guideway capital investments. Like all Federally funded transportation investments in metropolitan areas, New Starts/Small Starts projects must emerge from a locally driven, multimodal transportation planning process coordinated through the MPO. The Washington trip, along with subsequent attendance at seminars and listening sessions, has made clear the fact that the FTA has a very detailed and specific planning and project development process that must be met.

An important aspect of the process is that regardless of all the "feasibility studies" that may be done, New Starts/Small Starts program projects require what the FTA calls an "Alternatives Analysis." Such a study is an absolute must, and is a prerequisite to future project funding. Without exception, discussions with those involved with the New Starts/Small Starts program have yielded the same advice—pursuing an Alternatives Analysis, rather than another feasibility study, is the most prudent and advisable direction in which to proceed. This advice is due in large part to fact that an Alternatives Analysis would be required anyway, regardless of whatever other studies are done.

It should be noted that an Alternatives Analysis must look at all alternatives…not a pre-conceived conclusion regarding a particular mode. A problem must exist in a given corridor, and all alternative modal solutions explored prior to project approval. To some degree, the program may not readily lend itself to certain projects that seek to use transit to open up future opportunities.

However, before a definitive conclusion is reached on pursuing this particular initiative, more information is needed on new regulations that the FTA is developing, as well as the requirements and procedures for applying for Federal funding to have an Alternatives Analysis study conducted. The average cost for such a study is $1 million, and the funding ratio is 80%/20%. FTA Section 5339 funds are available for funding Alternatives Analysis studies, and tentative plans are to pursue such funding.

CHAPTER X 2030 HIGHWAY NETWORK

A. Network Development and Connectivity-Arterial Network

1. 2030 Proposed Network

It is imperative that the cities and two counties of the NARTS area develop an interconnected road network that carries traffic seamlessly through the many jurisdictions. To this end, all of jurisdictions working together developed a connected network that was considered high priority to be at four-lane capacity by 2030. After the cities and counties provided specific input, the TAC looked for and added regional connections that tied the system together.

The following 2030 Regional Network map was developed without consideration of financial limitations and could be considered a graphic representation of a Regional Unconstrained Plan. It allowed the TAC and the public to visualize the concept of a regional network. This map was also used to show the existing inventory of four-lane plus roads. As the popularity of the boulevard concept emerged, the map also depicted possible boulevard locations. This map must still be considered a work in progress, as all roads involving new location must be thoroughly analyzed. Several key locations were discussed as essential for ROW acquisition.

2. Unconstrained Concept

The 2030 Proposed Network is a working template used to develop and promote regional connectivity in the road system. It is a valuable graphic representation and emphasizes primarily the arterial needs of the region.

Federal legislation requires that future plans be developed with regard to funding constraints. Our rapid growth and limited financial resources demand that we prepare plans and schedules for accomplishing improvements. The 2030 Plan includes an “Unconstrained Plan” and “Constrained Plan”. The “Unconstrained Plan” includes all transportation improvements (roadway, transit, trail, etc.) necessary to meet transportation needs in 2030. The “Constrained Plan” is developed from the “Unconstrained Plan” but is limited based on estimated funds available.

A spreadsheet was also developed in the process of crafting the Long Range Plan referred to as the Unconstrained List. It was developed by each city and shows all roads that could use improvements, including four-lane, three-lane and widening two-lane roads. The full Unconstrained List is not represented on the 2030 Arterial Network Plan. Also, the 2030 Arterial Network is not fully represented in the Unconstrained List since portions of the 2030 Network involve new locations and proposed routes that still need more study. The Unconstrained List is in the Appendix F.

The 2030 Regional Proposed Network map

Go to:
http://www.nwarpc.com/Maps/2030proposednetwork_hirez.pdf

B. ROW Preservation/Cross-sections

A major emphasis arising from developing the 2030 Road Network is the importance of preserving ROW and adhering to uniform cross-sections. Cities are urged to consider the 2030 Network and to reflect the needed connectivity on their master street plans. This will allow them to preserve the important ROW easements as the area continues its rapid development. Cities are also advised to reflect the recommended cross-section guidelines from Chapter Five in their master street plans.

C. The Financially Constrained Road Improvement Plan

1. Introduction.

The 2030 Proposed Network and the Unconstrained Road Project List represent the largest universe of potential road improvements in the region. A major component of the 2030 NWA Regional Transportation Plan is to take the estimated available funds through the year 2030 and prioritize the potential projects within the limits of the estimated funds.

This “Constrained List” consists of projects that can reasonably be expected to be funded with Federal-Aid funds during the Plan period. This is determined by estimates of Federal-Aid funds that can reasonably be expected to come to the area given the area’s highway network, population, etc. These estimates are provided by the Arkansas Highway and Transportation Department and are not limits, nor are they guarantees of funding. They are conservative, reasonable estimates of future funding to guide development of the Plan.

2. The 2005-2007 Transportation Improvement Program (TIP)

This ”Financially Constrained List” of projects necessarily starts with the adopted 2005-2007 TIP, which shows the projects that already have Federal, Federal, and local commitments. The 2005 – 2007 TIP was amended on January 24, 2006 to reflect the projects receiving Federal earmarks in the SAFETEA-LU bill and is an accurate reflection of all Federally funded projects to be funded during that timeframe. The full 2005-2007 TIP is in the appendix and the road projects from the TIP are represented on the final “Funded System Plan” Map.

3. NHS/IMS, STP, and STP-U Projects

AHTD provided funding estimates for several categories of major road projects as shown in this table. All of the totals reflect Federal funds and matching Federal funds.

Estimated Funds available for 2005-2030:

STP (State Highway)	**$**	**149,500,000**
STP – U and A (Local and Regional Roads)	**$**	**93,836,000**
NHS (National Highway System)	**$**	**98,066,000**
IM (Interstate Maintenance)	**$**	**70,140,000**
Total Estimated Funds Available	**$**	**411,542,000**

National Highway System (NHS) funds are available only for highways that are on the National Highway System.

Interstate Maintenance (IMS) funds are only available for Interstate highways and thus are limited to I-540 through Northwest Arkansas.

STP funds are available for numbered State and US highways.

STP-Urban and STP- Attributable funds are available for local roads as long as they are on the Functionally Classified Highway Map.

Local Matching Funds

These estimated funds include matching funds from both AHTD and local cities. Northwest Arkansas cities are demonstrating an aggressive effort to raise local funds for road projects. These funds are used as matching funds for Federal and Federal projects as well as local road projects. This chart summarizes the level of local initiatives utilizing sales tax dedicated to road projects:

Sales Tax Revenue Dedicated to Roads
Summary

City	Sales Tax	Approx. Annual Revenue
Rogers	1% (65% to roads)	$6,500,000
Springdale	1% (all to roads) 1% (75% to roads)	$12,131,000
Bentonville	1% (70% to roads)	$3,167,000
Fayetteville	1% (38% to roads)	$6,158,000
Lowell	1% (70% to roads)	$840,000
Centerton	1% (67% to roads)	$168,000
Prairie Grove	1% (45% to roads)	$130,000
Pea Ridge	1% (40% to roads)	$86,000
Siloam Springs	1% (80% to roads)	$2,000,000

All road projects receiving Federal funds must be on the Functionally Classified Highway Map. A map showing all functionally classified roads in the Study Area is in the Appendix J.

With the financial dilemma in mind of having $1.9 billion dollars in road improvement needs and $411,542,000 in estimated funding available, the TAC began the process to prioritize the road projects.

Each city was asked to pare down their Unconstrained List into a list showing top priorities with estimated costs. The first draft of this combined list was cost excessive to an extreme and the cities were asked to pare their list even further.

A sub committee of the TAC was formed to evaluate the projects based on this criteria:

Is it on the 2025 Constrained List?

Is it on the 2030 Arterial Network?

Level of functional classification?

Extreme existing conditions (LOS) or safety issues?

Critical new location corridor preservation?

In an area of rapid development?

Ability to match STP-U funds for STP-U projects?

Using this criteria and public input from the previous public meetings and surveys, the sub-committee drafted a short list of projects to highlight on a map and present to the third round of public comment. This table showing the estimated cost of the Constrained Plan candidates versus the estimated funds available accompanied the “Short List”:

Highway System Needs - Short List

Improve Current State Highway System (As shown on map)	$356,000,000
Springdale Northern Bypass (Total estimated cost of project is $300,000,000, $31,000,000 is already committed, estimated right of way cost - $62,000,000)	$269,000,000
Siloam Springs Hwy 412 Improvements (includes options of through-town improvements or a Bypass)	$83,000,000
Prairie Grove Bypass	$26,000,000
Bella Vista Bypass (Total Estimated Cost of project is $200,000,000. $37,000,000 was designated in a federal earmark of HPP funds)	$163,000,000
Local and Regional Roads (STP-U and STP-A)	$252,000,000
I-540 Improvements	$377,000,000
Western Beltway	$400,000,000
Total Needs or approx 1.9 billion dollars	$1,926,000,000

Maps of the short listed projects (STP and STP-U Candidates) were displayed along with the Estimated Available Funding chart showing $411,542,000 in funds available. This highlighted the difficulty involved in prioritizing the projects. A third map was displayed showing the STP and STP-U candidates along with the projects that are already constrained in the 2005-2007 TIP. The “Short List System Plan” map is shown here.

Short List System Plan map

Go To www.nwarpc.com or click on map link below

http://www.nwarpc.com/Maps/shortlistsystemplan_hirez.pdf

As described in Chapter Five, the public was asked to choose three STP and three STP-U projects that they considered as top priorities. This information was utilized by the TAC Work Group to further aid in the process of developing the financially Constrained List.

After numerous meetings as described in the Appendix, the TAC derived a final proposed Constrained List and presented it to a Policy meeting on February 9, 2006. The Policy Committee was asked to provide comment for a two-week period. After some changes were made based on Policy Committee comment, the TAC Work Group met again on February 27, 2006 and recommended a Constrained List. This draft Constrained List was approved to be forwarded to the final round of public input on April 4, 2006, by the TAC and Policy Committee on March 28, 2006.

The Constrained List by funding category:

Interstate Maintenance (IM) / National Highway System (NHS)
Constrained List

		TOTAL	HPP	IM	NHS	LOCAL
2006-10						
I-540	All Interchange Short-Term Imp. Except Pleasant Grove	$2,400,000			$1,920,000	
I-540	Routine Maintenance	$1,550,000		$1,395,000		
I-540	Hwys. 62/102 Int. Interim Imp.	$3,900,000	$1,221,200		$1,898,800	
I-540	Hwy 62 Interim Imp. (Fayetteville)	$2,900,000			$2,320,000	
I-540	Perry Rd. Int.	$18,229,986	$16,431,901			$1,798,085
I-540	Pleasant Grove Int. Short/Interim/partial Long Imp.	$7,600,000				$7,600,000
I-540	Hwy. 71B Int. Interim Imp. (Bentonvillle)	$4,100,000			$3,280,000	
I-540	Johnson Rd. Int. Interim Imp.	$900,000			$720,000	
2011-15						
I-540	Routine Maintenance	$1,550,000		$1,395,000		
I-540	Hwy 112/71B (Fulbright) Interim Imp.	$5,600,000		$5,040,000		
I-540	Hwy 16 (Wedington) Int. Interim Imp.	$2,200,000		$1,980,000		
412	Siloam Springs (PE and ROW)	$647,905			$518,324	
412	Springdale Bypass	$20,788,595			$16,630,876	
I-540	Hwy. 72 Int. Intermim Imp.	$3,300,000		$2,970,000		
I-540	Porter Rd. Int. Interim Imp.	$1,600,000		$1,440,000		
I-540	Selected Int. Imp.	$2,300,000		$2,070,000		
2016-30						
I-540	Routine Maintenance	$4,650,000		$4,185,000		
I-540	Long-term Interchange Improvements	$58,450,000		$52,605,000		
I-540	Main Lane Widening	$63,956,250			$51,165,000	
	TOTAL 2006-2030	$206,622,736	$17,653,101	$73,080,000	$78,453,000	$9,398,085

STP Constrained Project List

2006-10

Job. No.	Hwy.	Project	MILES	TOTAL	STP
90174	102	Hwy. 279 North-Greenhouse Rd. (Phase I)	2.75	$15,800,000	$11,040,000
	16	Happy Hollow-Stonebridge (Fayetteville)	0.58	$2,600,000	$1,040,000
	62/94/102	Intersection Improvements (2nd & Hudson (Rogers)	-	$1,000,000	$400,000
	71B	Hwy. 71B /Hwy. 264 Intersection Imp. (Phase I) (Lowell)	-	$1,500,000	$1,200,000
	265	Hwy. 412-South City Limits (Springdale)	1.3	$7,400,000	$2,960,000
				$28,300,000	**$16,640,000**

2011-2015

	Hwy.	Project	MILES	TOTAL	STP
	12	Hwy 71B - Greenhouse Road (Bentonville)	2.4	$13,700,000	$5,480,000
	43	Dawn Hill Rd. - City Limits (Siloam Springs)	0.75	$4,300,000	$1,720,000
	45	Hwy. 265 - Starr Road (Fayetteville)	0.5	$2,800,000	$1,120,000
	62	Prairie Grove Bypass ROW (part)	-	$2,000,000	$1,600,000
40418	112	Hwy. 180(6th St.)-Garland Ave. (Fayetteville)	1.2	$6,800,000	$1,720,000
	112	I-540-Van Asche (Fayetteville)	0.8	$4,500,000	$1,800,000
	412	Hwy. 412 Springdale Bypass (Right of Way)	-	$10,000,000	$8,000,000
	412	Hwy. 412 Improvements (Siloam Springs)	-	$1,800,000	$1,440,000
	62B	Hwy. 62B/Hwy. 12 Int. Impvts. (Rogers)	-	$1,000,000	$800,000
	71B	Hwy. 71B /Hwy. 264 Intersection Imp. (Phase II) (Lowell)	-	$2,000,000	$1,600,000
	71B	46th and 71B Intersection Imp. (Rogers)	-	$2,000,000	$1,600,000
				$37,200,000	**$26,880,000**

2016-2030

	Hwy.	Project	MILES	TOTAL	STP
	12	Greenhouse Road to Wal-Mart Dist. Center (Bentonville)	1.6	$9,500,000	$3,800,000
	16	South College Ave.-Happy Hollow (15th St.) (Fayetteville)	1.25	$5,200,000	$2,080,000
	16	Washington Co. Line-West (Rehab/Minor Widening)	6.6	$7,900,000	$6,320,000
	16	Wedington Woods-Washington Co. Line (Rebab/Minor Widen)	8	$9,600,000	$7,680,000
	45	Starr Road - Oakland-Zion (Fayetteville)	0.75	$4,300,000	$1,720,000
	59	Hwy. 45-South (Sel. Sections) (Rehab. /Minor Widen)	3	$3,600,000	$2,880,000
90096	62	Hwy. 127-Gateway	4.14	$14,500,000	$11,600,000
	62	Prairie Grove Bypass (part)	-	$2,000,000	$1,600,000
	71B	8th-Dixieland Road Minor Widening (Rogers)	1	$3,300,000	$2,640,000
	72	Hwy. 94 - Mariano Rd. (Pea Ridge)	2.15	$10,000,000	$4,000,000
	94	Hwy. 71-Old Wire Road (Rogers)	1.15	$6,000,000	$4,800,000
90174	102	Hwy. 279 North-Greenhouse Rd. (Phase II)	1.25	$7,200,000	$5,760,000
	102B	Hwy. 102-Hwy. 72 Minor Widening (Centerton)	1.78	$2,200,000	$1,760,000
	112	North Street-I-540 (Fayetteville)	2.04	$11,300,000	$4,520,000
	112	Van Asche - Howard Nickell (Fayetteville)	0.75	$4,300,000	$1,720,000
	112	Hwy 12 to Windmill (Bentonville)	1.8	$7,000,000	$2,800,000
	264	Hwy. 71B - Old Wire Rd. (Hwy. 264) (Springdale)	1.42	$8,000,000	$6,400,000
	412	Hwy. 412 Improvements (Siloam Springs)	-	$5,500,000	$4,400,000
				$121,400,000	**$76,480,000**

2006-2030 TOTAL	**$186,900,000**	**$120,000,000**

STP URBAN AND ATTRIBUTABLE CONSTRAINED LIST

2006-2010

Jurisdiction	Route	Begin	End		Total	STP-U
Bentonville	SW -A	Highway 71B	Central Avenue		$5,000,000	$1,000,000
Fayetteville	Rupple Road	Wedington	Mt. Comfort Road		$7,290,000	$1,000,000
Lowell	Monroe extension	RR/Monroe Int.	Brandon St.		$1,544,000	$1,000,000
Rogers	Perry Road	Interchange	Champions Dr.		$1,610,000	$1,000,000
Siloam Springs	Dogwood Street	Tulsa St.	W. Jefferson		$500,000	$400,000
Johnson	Main Drive	Little Sandy	I-540		$1,250,000	$1,000,000
				Total	**$17,194,000**	**$5,400,000**

2011-2015

					Total	STP-U
Siloam Springs	Tahlequah Road	Hwy 264	S. Country Club		$660,000	$528,000
Springdale	56th Street	Hwy 412	Harber Ave.		$2,870,000	$1,000,000
Pea Ridge	Green St	Hwy 94	Hwy 72		$1,000,000	$800,000
				Total	**$4,530,000**	**$2,328,000**

					Total	STP-A
Bentonville	Water Tower Road	E. Central	AR 102		$5,000,000	$1,720,000
Fayetteville	Van Ashe Drive	Gregg Ave.	Garland		$4,650,000	$1,720,000
Johnson	Great House Springs Road	I-540	West to City Limits		$1,300,000	$1,040,000
Lowell	Bellview	Hwy 264	North to City Limit		$2,822,250	$1,720,000
Pea Ridge	Greer	Highway 72	Lee Town		$2,000,000	$1,600,000
Rogers	45th St Bridge				$5,000,000	$1,720,000
Springdale	56th Street	Harber Ave.	Elm Springs Road		$2,550,000	$1,720,000
				Total	**$23,322,250**	**$11,240,000**

2016-2030

					Total	STP-U
Siloam Springs	Tahlequah Road	Hico	Highway 264		$660,000	$528,000
Siloam Springs	Tahlequah Road	Washington	Hico		$450,000	$360,000
Siloam Springs	Tahlequah Road	Madison	Washington		$700,000	$560,000
Siloam Springs	Brashears Road	Dawn Hill	N. Hico		$1,250,000	$997,000
				Total	**$3,060,000**	**$2,445,000**

					Total	STP-A
Bentonville	Moberly Lane	SE 28th St.	Walton Blvd.		$2,250,000	$1,408,381
Bentonville	SW "I"	Hwy 102	AR 12		$7,500,000	$4,694,603
Centerton	Kimmel/Fish Hatchery	Greenhouse Rd.	HWY 279S		$8,855,000	$5,542,761
Fayetteville	Rupple Road	6th St.	Persimmon		$7,094,000	$4,440,468
Fayetteville	Rupple Road	Mt. Comfort	Howard Nickel		$5,688,000	$3,560,387
Greenland	Wilson Street	Highway 265	Highway 71-B		$4,000,000	$2,503,788
Highfill	Pinalton Rd & Hutchens Rd	Hwy 264	Hwy 12		$12,800,000	$3,912,169
Johnson	Wilkerson North	Clear Creek	Main Drive		$1,800,000	$1,000,000
Johnson	Wilkerson Street North	Main	Hewitt or Johnson Rd. ext.		$3,200,000	$1,003,030
Johnson	Main Drive Widening	Wilkerson	East City Limits		$3,200,000	$2,003,030
Lowell	Springcreek	Hwy 264	Apple Blosom		$3,748,800	$2,346,550
Lowell-Benton Co.	Apple Blosom	S. Goad Springs Rd.	Spring Creek		$1,702,000	$1,065,362
Pea Ridge	Weston Street	Hwy 94	Hwy 72		$3,200,000	$2,003,030
Prairie Grove	Parks St./IllinoisChapel Rd	Prairie Grove City limit	Hwy 62		$1,000,000	$625,947
Prairie Grove	Hogeye RD	Prairie Grove City limit	Hwy 62		$1,000,000	$625,947
Rogers	Pleasant Grove Rd. Overpass				$7,620,000	$4,769,716

Springdale	56th Street	Hwy 412	Watkins Ave.	$4,180,000	$2,616,459
Springdale	56th Street	Watkins Ave.	Greathouse Springs Rd.	$6,000,000	$3,755,682
Regional	Old Wire Road	Hwy 264	Monroe Extension (Lowell)	$6,400,000	$4,006,061
Rogers/Bentonville	Olive/28th St. Overpass			$7,000,000	$4,381,629
			Total	**$98,237,800**	**$56,265,000**
			2006-2030 TOTAL	**$146,344,050**	**$77,678,000**

4. Major Corridors

Some of the major corridors have funding from different funding sources; hence summarizing each corridor can show the best representation of funding levels.

Major Corridor Funding

	2006-10	2011-15	2016-30	TOTAL	Identified Needs	Identified Unfunded Needs
Bella Vista Bypass	$39,775,000	$102,225,000	$0	$142,000,000	$142,000,000	$0
Interstate 540	$40,029,986	$15,000,000	$122,406,250	$177,436,236	$365,629,986	$188,193,750
Hwy. 412 (northern Springdale Bypass)	$31,211,405	$30,788,595	$0	$62,000,000	$300,000,000	$238,000,000
Western Beltway	$0	$0	$0	$0	$400,000,000	$400,000,000
				$381,436,236	$1,207,629,986	$826,193,750

5. High Priority Unconstrained Projects

Projects that were on the "Short List" of Unconstrained Projects that did not make the final Constrained List are shown as Top Priority Unconstrained Projects in the Unconstrained List shown below:

STP

Hwy.	Top Unconstrained	MILES	TOTAL		
12	Wal-Mart Dist. Center to NWARA	3.30	$18,900,000		
12	NWARA to Hwy 264	5.30	$30,400,000		
16	Stonebridge - Middle Fork (Fayetteville)	4.00	$25,000,000		
16	Middle Fork - Hwy 74 (Elkins)	2.00	$11,500,000		
45	Oakland-Zion to White River Bridge (Fay)	5.25	$30,000,000		
62	Prairie Grove Bypass	-	$30,000,000		
112	Howard Nickell-Hwy. 412	6.20	$36,000,000		
112	Hwy. 412 to Windmill	10.30	$68,500,000		
264	I-540 - Hwy. 112	4.80	$27,500,000		
264	East Main St. - Hwy. 43 (Siloam Springs)	1.13	$6,500,000		
279	Hwy. 102 - Hwy. 12 (Centerton)	3.05	$17,500,000		
279	Hwy 102 - Hwy 72	5.51	$27,400,000		
412	Hwy. 412 Improvements (Siloam Springs)	-	$35,000,000	OR	$130,000,000
			$364,200,000	OR	$459,200,000

2/27/2006

STP-U/A

2030 NWA REGIONAL TRANSPORTATION PLAN - TOP UNCONSTRAINED STP-U/A PROJECTS

line no.	Job Number	Jurisdiction	Route	Begin	End	Length	Estimated Cost (x1000)
5		Bentonville	E. Central	AR 72	E. City Limits	1.10	
6		Bentonville	Bella Vista Road	NW 12th	NW 5th	0.60	$ 2,100
7		Bentonville	NW 5th	Bella Vista Road	NW "A"	0.40	$ 1,400
9		Centerton	Bush/LC Hickman	HWY 279S	Hwy 102	2.25	$ 7,245
10		CEN-Benton Co	Seba Rd.	Hwy 102B/Main	Hwy 279N	2.50	$ 8,050
11		CEN-Benton Co	Gamble/Walters	Bliss	Hwy 72	2.60	$ 8,372
12		CEN-Bville-Benton Co	Greenhouse Rd.	Hwy 102	Hwy 12	1.50	$ 4,830
15		Fayetteville	Rupple Road	Persimmon Street	Wedington	0.53	$ 997
18		Fayetteville	Howard Nickell/Van Ashe	Rupple	Garland	2.18	$ 8,401
20		Fayetteville	Van Ashe Drive	Steele Blvd.	Gregg Ave.	0.40	$ 1,200
23		Highfill	W. Holland, N. Holland & W. Cowan	Hwy 12	Hwy 12	3.50	$ 11,200
24		Highfill	Morrow Rd	N. Holland	Pinalto Rd.	0.80	$ 3,000
25		Highfill	Duke Hill	N. Holland	Pinalto Rd.	1.00	$ 3,200
26		Highfill	Armstrong Cemetery	Hwy 12	W. Cowan	1.00	$ 3,200
35		Lowell-Benton Co.	Appleblosoom	Spring Creek	City Limit	1.01	$ 1,894
36		Lowell-Beth. Heights	Appleblosoom	Old Wire	Hwy 71B	1.20	$ 2,242
37		Lowell-Beth. Heights-Springdale-Benton Co.	Appleblosoom	Hwy 71B	S. Goad Springs Rd.	0.96	$ 1,793
41		Pea Ridge	Lee Town	Highway 94	Highway 72	4.00	$ 12,800
42		Pea Ridge	Patton/Hazelton	Davis	Mariano Road	2.70	$ 2,000
47	3	Rogers	South First Street	Olrich St.	Pleasant Grove Rd.	2.52	$ 5,600
48	5	Rogers	Pleasant Grove Road	I-540	Bellview Rd.	0.85	$ 3,280
49	5	Rogers	Pleasant Grove Road	S. 71 Business	S. First St.	0.64	$ 2,000
50	4	Rogers	South 26th Street	W. Highway 94	W. Pleasant Grove Rd.	2.14	$ 7,000
51	8	Rogers	Horsebarn Road	Stoney Brook Rd.	north to City Limits	1.07	$ 2,450
52	7	Rogers	Pleasant Grove Road	Bellview Rd.	Champions Dr.	0.98	$ 3,280
62		Springdale	Mountain Road	Monitor Road	Highway 264	2.60	$ 7,800
		Total					**$ 115,334**

D. Financially Constrained Plan Map

(Contains the TIP, NHS/IMS, STP and STP-U)

E. Major Corridor Summaries

1. The Springdale Northern Bypass (Highway 412)

Project Overview (AHTD website):

A Major Investment Study (MIS) was initiated within the urbanized area of Northwest Arkansas in 1996, to evaluate the various concepts available to alleviate existing traffic congestion on Highway 412. A working group was developed to consider several construction and non-construction strategies to implement an improved transportation system. This group ultimately concluded that a new location alignment north of Springdale best met the overall project purpose and need as developed by the working group, as well as numerous local objectives. The local NARTS Policy Committee adopted this conclusion.

An Environmental Impact Study (EIS) to determine the location of the proposed bypass began in 1998 with a Draft Environmental Impact Statement (DEIS). This DEIS studied four new location alignments along with the No-Action Alternative and improvements along the existing highway corridor. The AHTD and the FHWA completed the DEIS in January 2002.

DEIS Location Public Hearings were held in April 2002 to display DEIS study information and maps of the alignments, and to receive comments on the DEIS. Comments received at the public hearing suggested two additional alignments for consideration that were not documented in the DEIS. These additions were a "split interchange" alignment that uses an existing segment of I-540 as a part of the proposed bypass, and a "northern" alignment.

The split interchange concept was not considered feasible by FHWA. However, a decision was made to prepare a Supplemental Draft Environmental Impact Statement (SDEIS) to evaluate the "northern" alignment. Four alignments were studied and compared within the center portion of the proposed project. The SDEIS was finalized in May of 2004 and SDEIS Location Public Hearings were held in June 2004.

The AHTD and FHWA evaluated the alignments in the SDEIS for social, economic and environmental impacts, traffic analysis, and conceptual design. This information was used in the decision making process along with the comments received from resource agencies, public officials, and the public for the identification of Line 5 as the Preferred Line through Segment B-E. (Click here to see a map showing the Preferred Line) The Preferred Segments previously established and shown at the SDEIS Location Public Hearings within Segments A-B and E-F were also confirmed to carry forward into the FEIS.

Revisions to Preferred Segment A-B were made in the western interchange with existing Highway 412 as a result of comments made at the DEIS Location Public

Hearings, and to the alignment south of Brush Creek Road because of electrical transmission lines. (Click here to see a map showing September 2004 changes to Segment A-B). A public meeting held September 2004 indicated that most residents were in favor of these proposed revisions, which were then adopted and analyzed in the FEIS as a part of the Preferred Line.

An in-depth analysis of the Preferred Line was conducted by AHTD in cooperation with the FHWA and the results of this analysis are also documented in the FEIS, issued October 6, 2005.

After a review of the FEIS and the comments received, the FHWA issued a Record of Decision on February 15, 2006 that approved a Selected Alignment Alternative for the proposed bypass.

Funding Summary (From the MPO)

The estimated cost of the Springdale Bypass is $300,000,000 of which $31,000,000 is already committed to the project in the current 2005-2007 TIP.
The 2030 NWA Regional Transportation Plan recommends another $31,000,000 be added to that amount consisting of:

$8,000,000 from STP funds,
~ $16,600,000, from NHS funds, and
~ $6,400,000 from State matching funds.

This brings the total available through the year 2015 to $62,000,000, which is the estimated cost of ROW acquisition for the project.

This important project is one of the four top priority large projects needed for the region. Every funding option will need to be explored to fund this project. A strong recommendation from the Policy Committee is for all local jurisdictions to express a common interest to elected congressional officials for Federal help with this project. All local financial options including toll roads must also be pursued.

2. The Bella Vista Bypass

Project Overview (AHTD Public Affairs)

FHWA issued a Record of Decision approving the location of the Bella Vista Bypass on April 19, 2000. The bypass will be constructed as a four-lane, divided, Interstate type facility west of existing Highway 71 from Bella Vista, Arkansas to Pineville, Missouri. In SAFETEA-LU Congress set aside $37,000,000 for Arkansas' portion of the Bypass. Existing Highway 71 through Bella vista serves approximately 31,000 vehicles per day. HNTB Corporation of Kansas City is under contract with the Missouri DOT (lead state) for $11.2 million ($8.6 million Arkansas portion) to provide final plans for the entire project from

Bella Vista to Pineville, Missouri. During the development of the plans, a Design Public Hearing will be held to obtain public comment. HNTB's current cost estimate for this 20-mile bypass is $193 million including preliminary engineering, right of way and construction (Arkansas - $142 million, 14.6 miles; Missouri - $51 million, 5.0 miles). Work on this design contract was suspended until the Missouri DOT could commit to funding their share. Because of new funding sources in Missouri, design on this project has resumed.

The Bella Vista bypass was considered feasible as a toll road by a 2001 preliminary study of possible toll roads in Arkansas. HNTB Corporation and Wilbur Smith Associates are currently conducting a more detailed investment-grade study to confirm the results of the preliminary study. Results of the investment-grade study are expected in the spring of 2006.

Funding Summary (From the MPO)

Total estimated cost of the Arkansas portion of the project is $142,000,000. $37,000,000 was designated for the project in the SAFETEA-LU. With matching funds this will amount to $39,775,000 available, leaving a shortfall of $102,225,000. The investment grade study underway will evaluate whether this amount could be supplied by building the facility as a toll road. On June 11, 2002, the NARTS Policy Committee approved a resolution in full support of tolling the Bella Vista Bypass. A strong recommendation from the current Policy Committee is for all local jurisdictions to express a common interest to elected congressional officials for Federal help with this project. All additional financial options must also be pursued.

3. I-540 Improvements

Project Overview

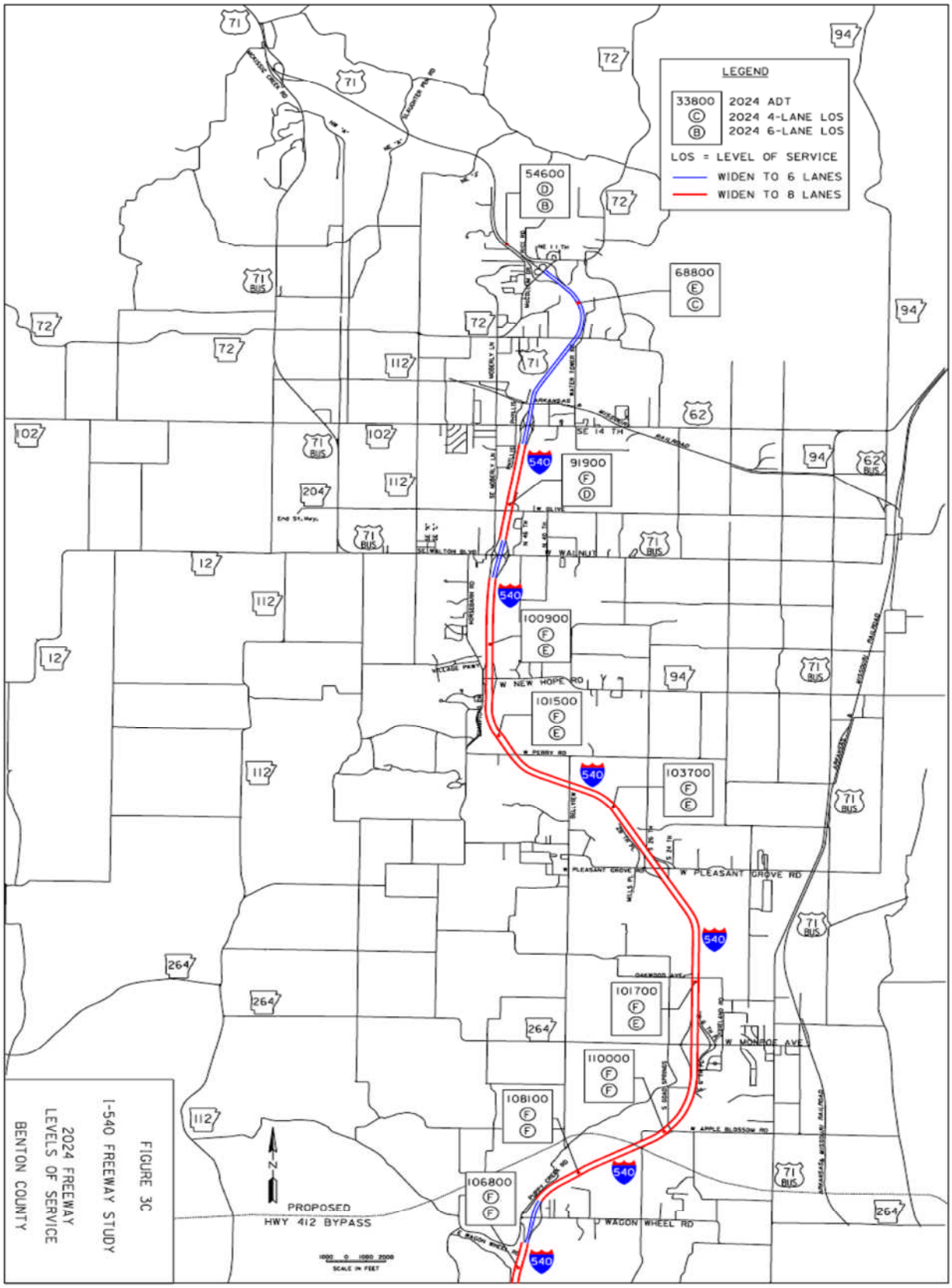
In the summer of 2002 the Northwest Arkansas MPO requested that the AHTD undertake a study of future capacity needs for the I-540 corridor through Washington and Benton Counties. In September of 2003 The Parsons Transportation Group was selected to perform the Study. The Parsons Transportation Group provided an initial draft of the Interstate 540 Improvement Study in March of 2005. The recommendations in this draft Study provided the basis for allocating estimated funding resources to this important corridor in the Transportation Plan. The Study made recommendations to increase the number of lanes for most of the I-540 corridor and recommended short term, mid-term and long term solutions for the majority of the interchanges. These recommendations are portrayed in the maps and tables on the following pages and are available in much greater detail in the full *Interstate I-540 Improvement Study*.

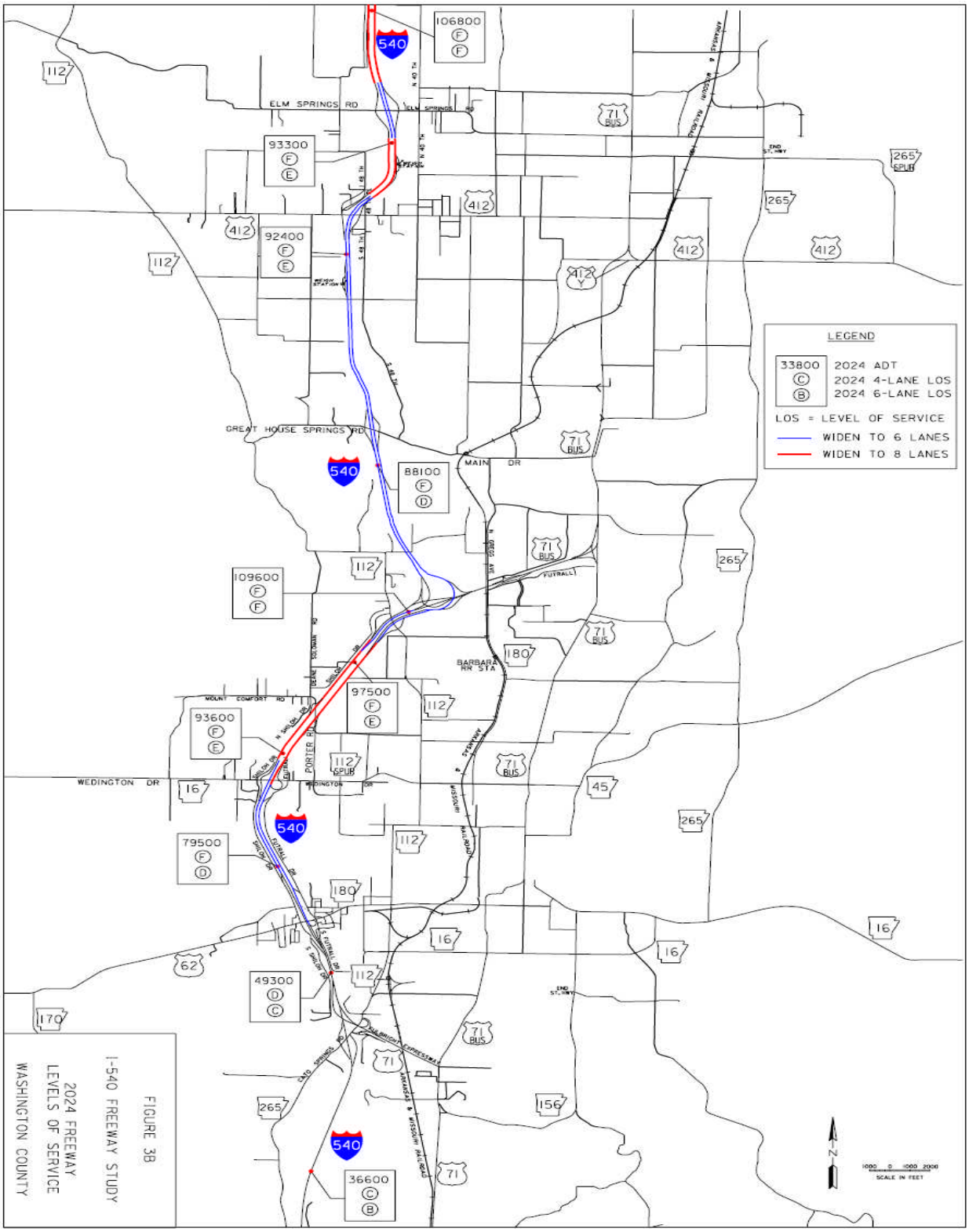
Funding Summary:

Total identified needs total $365,630,000. As shown in the Major Corridor Funding Table, $177,436,000 in estimated funding is available through 2030. This leaves an $188,000,000 short fall, which represents a critical need for infrastructure improvements to Northwest Arkansas. A strong recommendation from the Policy Committee is for all local jurisdictions to express a common interest to elected congressional officials for Federal help with this project. All local financial options must also be pursued.

Preliminary I-540 Study Recommendations

Improvement Type	Route	Begin	End	Estimated Cost		
				2 lanes inside	2 lanes outside	
WD	I-540	Hwy. 62	Hwy. 112	$13,100,000	$10,500,000	$23,600,000
WD	I-540	Hwy. 71B (Fulbright)	Hwy. 412	$23,700,000	$0	$23,700,000
WD	I-540	Hwy. 412	Hwy. 412 Bypass	$24,100,000	$20,400,000	$44,500,000
WD	I-540	Hwy. 412 Bypass	Hwy. 71B	$38,800,000	$43,700,000	$82,500,000
WD	I-540/Hwy. 71	Hwy. 71B	Hwy. 72	$18,300,000	$7,100,000	$25,400,000
				$118,000,000	$81,700,000	$199,700,000
Int Imp	I-540	**Hwy 112 & Hwy 71B (Fulbright)**	**Interim**	**$5,600,000**		
Int Imp	I-540	**Hwy 16 (Wedington) Int.**	**Interim**	**$2,200,000**		
Int Imp	I-540	**Hwy 62 Int.**	**Interim**	**$2,900,000**		
Int Imp	I-540	**Hwy 62/Hwy 102**	**Interim**	**$3,900,000**		
Int Imp	I-540	**Hwy. 71B**	**Interim**	**$4,100,000**		
Int Imp	Hwy. 71	**Hwy. 72**	**Interim**	**$3,300,000**		
Int Imp	I-540	**Johnson Rd. Int.**	**Interim**	**$900,000**		
Int Imp	I-540	**Pleasant Grove Rd. Int.**	**Interim**	**$2,100,000**		
Int Imp	I-540	**Porter Rd. Int.**	**Interim**	**$1,600,000**		
				$26,600,000		
Int Imp	I-540	Huntsville Rd./Elm Springs Int	Long-Term	$1,000,000		
Int Imp	I-540	Hwy 112 & Hwy 71B (Fulbright)	Long-Term	$28,300,000		
Int Imp	I-540	Hwy 16 (Wedington) Int.	Long-Term	$15,400,000		
Int Imp	I-540	Hwy 264	Long-Term	$11,900,000		
Int Imp	I-540	Hwy 62 Int.	Long-Term	$21,300,000		
Int Imp	I-540	Hwy 62/Hwy 102	Long-Term	$12,500,000		
Int Imp	I-540	Hwy 94 (New Hope) Int.	Long-Term	$6,100,000		
Int Imp	I-540	Hwy. 71B	Long-Term	$14,700,000		
Int Imp	Hwy. 71	Hwy. 72	Long-Term	$5,900,000		
Int Imp	I-540	Johnson Rd. Int.	Long-Term	$1,600,000		
Int Imp	I-540	Pleasant Grove Rd. Int.	Long-Term	$16,200,000		
Int Imp	I-540	Porter Rd. Int.	Long-Term	$12,500,000		
Int Imp	I-540	Wagon Wheel Int.	Long-Term	$300,000		
				$147,700,000		
Int Imp	I-540	**Hwy 112 & Hwy 71B (Fulbright)**	**Short-term**	**$280,000**		
Int Imp	I-540	**Hwy 16 (Wedington) Int.**	**Short-term**	**$670,000**		
Int Imp	I-540	**Hwy 264**	**Short-term**	**$120,000**		
Int Imp	I-540	**Hwy 62 Int.**	**Short-term**	**$210,000**		
Int Imp	I-540	**Hwy 62/Hwy 102**	**Short-term**	**$330,000**		
Int Imp	Hwy. 71	**Hwy. 72**	**Short-term**	**$560,000**		
Int Imp	I-540	**Pleasant Grove Rd. Int.**	**Short-term**	**$110,000**		
Int Imp	I-540	**Porter Rd. Int.**	**Short-term**	**$230,000**		
				$2,510,000		
			Long-term + Main lane	$347,400,000		
			+ Perry Rd. HPP	$365,629,986		


LEGEND
33800 2024 ADT
C 2024 4-LANE LOS
B 2024 6-LANE LOS
LOS = LEVEL OF SERVICE
WIDEN TO 6 LANES
WIDEN TO 8 LANES
54600 D B
68800 E C
91900 F D
100900 F E
101500 F E
103700 F E
101700 F E
110000 F F
108100 F F
106800 F F
PROPOSED HWY 412 BYPASS
W NEW HOPE RD
W PLEASANT GROVE RD
W MONROE AVE
WAGON WHEEL RD
SE 14 TH
W WALNUT
FIGURE 3C
I-540 FREEWAY STUDY
2024 FREEWAY LEVELS OF SERVICE
BENTON COUNTY


LEGEND
33800 2024 ADT
C 2024 4-LANE LOS
B 2024 6-LANE LOS
LOS = LEVEL OF SERVICE
WIDEN TO 6 LANES
WIDEN TO 8 LANES
106800 F F
93300 F E
92400 F E
88100 F D
109600 F F
97500 F E
93600 F E
79500 F D
49300 D C
36600 C B
ELM SPRINGS RD
GREAT HOUSE SPRINGS RD
MAIN DR
WEDINGTON DR
MOUNT COMFORT RD
PORTER RD
BARBARA HR STA
540
112
412
71 BUS
265
16
180
45
62
170
156
FIGURE 3B
I-540 FREEWAY STUDY
2024 FREEWAY
LEVELS OF SERVICE
WASHINGTON COUNTY

4. The Western Beltway

One of the most popular new ideas resulting from the development of the 2030 Northwest Arkansas Regional Transportation Plan Update is the concept of a Western Beltway. This proposed beltway would leave I-540 between West Fork and Fayetteville and connect with the Bella Vista Bypass near its interchange with Highway 72. The proposed facility would lie to the west of Tontitown and Highfill. Elected officials and a majority of public comments were very favorable toward this concept. A common thought expressed in many meetings is that timing is critical for establishing the location for this facility in order to begin to preserve the right of way.

One catalyst for the Western Beltway concept was the proposed cost of upgrading I-540 to eight lanes. It was suggested by elected officials that a western alternative should be examined before committing to eight lanes for I-540. A question was posed. Would six lanes suffice if alternative N/S corridors near the Interstate were established with additional crossovers and a western beltway was constructed? Another issue driving the Beltway concept is the future completion of I-49 from Shreveport, LA to Kansas City, MO. The additional freight traffic generated on a completed I-49 (of which current I-540 is a part) could overwhelm the current I-540 corridor in the year 2030. It was strongly expressed by the TAC and Policy Committees, as well as the general public that this concept should be the subject of feasibility and location studies as soon as possible.

While no funding is currently available for this project, it is nevertheless a strong recommendation from the Policy Committee for all local jurisdictions to express a common interest to elected congressional officials for Federal help with this project. All local financial options, including toll roads, must also be pursued.

F. Bridges

Bridge Replacement and Rehabilitation Program funds replace or rehabilitate deficient bridges dependent upon bridge sufficiency ratings developed through regular inspections by the AHTD of all public bridges.

Annual Fund Estimates for Long Range Planning supplied by AHTD indicate $2,040,000 available annually for bridge replacement and rehabilitation. For the 2006 – 2030 time frame this yields $54,208,000.

Bridge Projects already in the 2005-2007 TIP must first be deducted from the total funds and the remaining funds are available for qualified bridge projects. A list of the qualified bridges from AHTD is in the appendix.

Bridge Rehabilitation and Replacement Funds 2006 - 2010		
Project Name	**Federal Cost**	**Total Cost**
Highway 71: West Fork South Brs. & Apprs.	$2,320,000	$2,900,000
Highway 72: Little Sugar Creek Brs. & Apprs.	$1,368,000	$1,710,000
Highway 59: Gentry - South	$1,400,000	$1,750,000
Illinois River Str. & Apprs. (Benton Co.)	$2,000,000	$2,500,000
Highway 59: Ballard Creek Str. & Apprs.	$200,000	$250,000
Total Remaining Projects in 2006 - 2007 TIP	$7,288,000	$9,110,000
Estimated Funds Available 2008 - 2010	$6,120,000	$7,650,000
Estimated Funds Available 2011 - 2030	$40,800,000	$51,000,000

G. State Maintenance

State Maintenance funds are spent on routine maintenance of State Highways and the annual overlay program. These funds are programmed by the District Engineer and are a significant part of maintenance of the existing system.

Annual fund estimates supplied by AHTD indicate that $3,756,000 is available annually for 2006 – 2030. This represents $93,900,000 available for State Maintenance projects.

H. Intelligent Transportation Systems (ITS)

1. Introduction

What Is ITS?

The application of advanced sensor, computer, electronics, and communication technologies and management strategies—in an integrated manner—to improve the safety and efficiency of the surface transportation system.

Intelligent Transportation Systems, or ITS, encompass a broad range of wireless and wireline communications-based information, control and electronics technologies. When integrated into the transportation system infrastructure, and in vehicles themselves, these technologies help monitor and manage traffic flow, reduce congestion, provide alternate routes to travelers, enhance productivity, and save lives, time and money.

Intelligent Transportation Systems provide the tools for transportation professionals to collect, analyze, and archive data about the performance of the system during the hours of peak use. Having this data enhances traffic operators' ability to respond to incidents, adverse weather or other capacity constricting events.

Examples of Intelligent Transportations Systems include:

Advanced Traveler Information Systems deliver data directly to travelers, empowering them to make better choices about alternate routes or modes of transportation. When archived, this historical data provides transportation planners with accurate travel pattern information, optimizing the transportation planning process.

Advanced Traffic Management Systems employ a variety of relatively inexpensive detectors, cameras, and communication systems to monitor traffic, optimize signal timings on major arterials, and control the flow of traffic.

Incident Management Systems, for their part, provide traffic operators with the tools to allow quick and efficient response to accidents, hazardous spills, and other emergencies. Redundant communications systems link data collection points, transportation operations centers, and travel information portals into an integrated network that can be operated efficiently and "intelligently."

2. Local Efforts

The N.W.A. Regional Planning Commission (NWARPC), the area MPO, has been pursuing the development of an ITS Regional Architecture for several years. Efforts began in 2002 when MPO staff and local city planners attended an ITS training session hosted by the AHTD on the ninth and tenth of April in Little Rock, Arkansas. An ITS Focus Team was established as a result of that meeting to pursue regional architecture development. The ITS Focus Team met on several occasions in 2002 and 2003 to become more familiar with ITS concepts and the Architecture requirements.

NWARPC hosted an FHWA Regional ITS Workshop on March 12th and 13th of 2003. Representatives from the area's major cities participated and an ITS Regional Architecture Action Plan was developed. Subsequent meetings of the ITS Focus Team resulted in accomplishing the first steps of the Action Plan. The geographic area for Architecture development was determined to be the full two counties of NW Arkansas, and a ten-year planning horizon was established. The geographic area reflects the Study Area of the MPO and is a firm determination, however the planning horizon is subject to modification as the Regional Architecture is developed. The ITS Focus Team selected the market packages that were most likely to have application for NW Arkansas and developed a first draft of a stakeholders list.

During the March 31, 2004 ITS Focus Team meeting, it was decided that hiring a consultant to fully develop the Regional Architecture would be the preferred course of action. A subsequent Focus Team meeting on May 7, 2004 was conducted with the lead ITS staff person from Little Rock's MetroPlan who had directed the development of their Regional Architecture. This meeting confirmed that hiring a consultant would be the best direction to take for the development of the NW Arkansas Regional Architecture.

A request was made to Congressman Boozman's office for Federal assistance regarding funding the Architecture development and in November of 2004 an appropriation was made in the 2005 Appropriation Bill providing the financial assistance. The funding assistance will be matched on a 50/50 basis and this project will also include an ITS Deployment Plan. Subsequent projects utilizing the remainder of the Federal money, with 50/50 matching funds, will involve implementing ITS projects in conformity with the ITS Regional Architecture and Deployment Plan.

3. ITS Regional Architecture Development

The Federal Highway Administration (FHWA) issued a final rule to implement Section 5206(e) of the Transportation Equity Act for the 21st Century (TEA-21) in January of 2001. This final rule requires that Intelligent Transportation System (ITS) projects funded through the Highway Trust Fund conform to the National ITS Architecture and applicable standards.

To meet these requirements and ensure future Federal funding eligibility for ITS, the Northwest Arkansas Regional Planning Commission (NWARPC) in conjunction with the Arkansas State Highway and Transportation Department (AHTD) has initiated the development of a Regional ITS Architecture and Deployment Plan. The Regional ITS Architecture provides a framework for ITS systems, services, integration, and interoperability, and the Regional ITS Deployment Plan identifies specific projects and timeframes for ITS implementation to support the vision developed by stakeholders in the Architecture.

Some of the benefits of developing the Regional ITS Architecture are:

- Allows ITS implementation to be efficiently structured
- Builds a foundation for explicitly incorporating operations and management into decision-making
- Encourages stakeholder buy-in
- Assists in estimating funding needs
- Serves as a tool for education/regional information exchange
- Assists in identifying gaps in existing services

The Development of a Regional (ITS) Architecture and Deployment Plan for the Northwest Arkansas Region will include:

- Development of Regional ITS Architecture for the region using the National Architecture Version 5.1. The Architecture will follow the guidelines of the U.S. Department of Transportation for developing regional ITS architectures
- Documentation of the Regional ITS Architecture using Turbo Architecture Version 3.1
- Development of an ITS Deployment Plan to document recommended projects for the region
- Development of final documents including an Executive Summary. Include physical and logical architecture diagrams for the region which map the entities/projects to the Architecture

The start date for the project is anticipated to be in the spring of 2006, with an expected completion date by the end of the year (2006). The project will involve the development of a Regional ITS Architecture and Deployment Plan for the Northwest Arkansas Study Area, which is the full extent of Benton and Washington Counties.

I. Travel Demand Model

1. Introduction

Travel demand models (TDM) are used to forecast traffic flows on the transportation system. Although the transportation system may include other modes of travel such as walking, bikes, or railroads, the models are typically used for evaluating roadway improvements or improvements to bus service. TDMs are used by consulting firms, MPOs and state departments of transportation to identify probable future year transportation system deficiencies that may not exist today. These agencies also use the models to evaluate the impact of alternative transportation solutions for development of long range transportation plans.

A travel demand model is a program or set of computer programs and data, which are assembled to aid in travel forecasting. The traffic forecasts are based on forecasted land use, demographics, and travel patterns unique to the region.

2. Benefits of a Regional Travel Demand Model

Specific Highway Construction Projects

- Five to thirty year forecasts
- Traffic impact of changes in land use and development

Studies

- Major investment studies
- Interchange justification studies
- Bypass studies
- Freight studies

General Highway Planning

- Traffic impact of changes in land use and development
- Traffic impacts of new roadways or closing roadways
- Evaluate bypasses
- Generate inputs to micro simulation models

Development of Long Range Transportation Plans

- State and Regional Plan and TIP development
- Traffic impact of changes in land use and development
- Congestion Management Programs
- Forecast regional pollution from vehicles
- Evaluate Environmental Justice
- Transit route planning

A Travel Demand Model for Northwest Arkansas will:

- Provide inputs for site-specific studies (including whole cities) that will make studies more accurate (by viewing the big picture) and less costly (future projections for major roads will be readily available to cities and consultants).

- Give the local jurisdictions an on-going resource of traffic count projections to answer what-if questions
  - What if we four lane this segment as opposed to that segment?
  - What if we put three lanes instead of five lanes?
  - What if a large shopping mall goes here?
  - What if we put in this east/west corridor?

- Provide jurisdictions with SimTraffic type software inputs for traffic scenarios such as
  - Projected traffic counts for 2010, 2015, 2020 etc.
  - Traffic counts for different road improvement scenarios.
  - Traffic counts for intersection improvement and signalization analysis

3. Model Development

The Arkansas Highway and Transportation Department in conjunction with the Northwest Arkansas Regional Planning Commission contracted for development of a base year travel demand model in the summer of 2004.

NWARPC staff, working with AHTD and the consultants, developed geographic and demographic data for the travel demand model including:

- Road network with attributes
- Transportation Analysis Zones (TAZ) with demographic attributes
- Employer data
- School Enrollment data

Household surveys and external trip surveys were performed by the consultants while a freight survey was conducted by AHTD.

All of this accumulated data is being incorporated into the travel demand model. AHTD and locally derived traffic counts are being compiled and will be used to calibrate the developing base year model. Model completion is expected by summer of 2006. NWARPC staff will be developing forecast year data sets utilizing some of the projections referenced in Chapter Three of this Plan as well as other forecasting methods.

CHAPTER XI PLAN RECOMMENDATIONS

Summary of Recommendations

The following documents the recommendations advanced by the TAC and Policy Committee as a result of technical evaluation as well as community and political input.

Transportation Design

- Adhere to Cross-section Guidelines
- Cities, counties, and AHTD should be encouraged to apply techniques of access management
- Establish a regional goal of promoting parkways/boulevards
- Study locations for parkways/boulevards
- Utilize ITS technologies to maximize infrastructure efficiency
- Examine use of Alternative Traffic Controls, such as round-abouts
- Encourage Transit Oriented Design practices
- Cities, counties, AHTD, and Federal government should be encouraged to erect signs naming waterways at road crossings

Bicycle and Pedestrian Facilities

- Maintain a regional commitment to bicycle and pedestrian facilities
- Adhere to the Heritage Trail Plan
- Encourage cities to develop a master trails plan
- Where ever possible seek out and use alternative funding for maintenance of existing and/or additional facilities

Intermodal Facilities

- Efforts should continue to finance and build the Airport Access Road

Transit and Transportation Alternatives

- Encourage and explore all modes of transit alternatives
    - Bus
    - Passenger Rail
    - Park and Ride Lots
    - Transit Friendly Design
    - HOV and HOT lanes
    - Taxi Service Improvements
    - Travel Demand Management Concepts
- Pursue a Transit Alternatives Analysis as part of a Long Range Transit Plan Strategy
- Explore Funding Alternatives

Highway Project Prioritization

- Establish a regional arterial network
  - Encourage local governments to protect and acquire ROW on routes identified on the 2030 Network
  - Improve East/West connections
  - Establish North/South regional arterials including those close to both sides of I-540 with connecting grade separations for traffic relief on I-540
  - Plan for an additional interchange on the Highway 412 Springdale Bypass between Highway 264 and the Beaver Lake Bridge.
  - Construct the Highway 412 Springdale Bypass at four lanes but plan for and buy ROW for six lanes.
  - Improve the rural county road network
  - Refine and improve the 2030 Network with the aid of the travel demand model

- Maintain a regional cohesiveness and unity by requesting Federal funding for these specific major corridor projects:
  - Springdale Bypass
  - Bella Vista Bypass
  - I-540 Improvements
  - Western Beltway

- I-540 Improvements
  - Focus first on short and interim improvements to interchanges
  - Improve existing grade separations
  - Develop new locations of grade separations on I-540
  - Long term interchange improvements
  - Widen mainline
  - Possible new interchanges at
    - Oaklawn in Springdale
    - Perry Road in Rogers
    - J Street in Bentonville
    - Eighth Street in Bentonville

- Maintain emphasis on the Western Beltway on the 2030 Network as a study corridor

- Continue to view the Eastern Bypass as a “parkway” concept

- Airport Access Road

- Utilize ITS technologies to maximize infrastructure efficiency

- Investigate innovative funding mechanisms, including toll roads

CHAPTER XII TRANSPORTATION PLANNING FACTORS AND THEIR RELATIONSHIP TO THE PLAN

President Clinton signed the Transportation Equity Act for the 21st Century (TEA-21) into law on June 9, 1998. This Act requires that urbanized areas develop a transportation plan that addresses these seven factors:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency.
2. Increase the safety and security of the transportation system for motorized and non-motorized users.
3. Increase the accessibility and mobility options available to people and for freight.
4. Protect and enhance the environment, promote energy conservation, and improve the quality of life.
5. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
6. Promote efficient system management and operation.
7. Emphasize the preservation of the existing transportation system.

These factors and the manner in which they have been addressed in the Plan are presented below.

Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;

- Infrastructure that supports a high level of service for mobility
  - Highway 412 bypass – Interstate type facility will alleviate congestion on Highway 71 B in Springdale by providing a limited access principal arterial route for freight to by-pass the business corridors of Springdale
  - Highway 265 widening from Highway 16 E (Fayetteville) to Highway 62 (Rogers). This transportation improvement will provide better north-south movement for freight by adding lanes to an existing Federal highway that connects the industrial parks of Fayetteville, Springdale, and Rogers
  - Airport Access Road will provide more efficient access to the Northwest Arkansas Regional Airport

Increase the safety and security of the transportation system for motorized and non-motorized users;

- Improvements to traffic signalization/pavement markings
- Use of ITS
- Apply techniques of access management

- Bicycle/pedestrian facilities – maintain a regional commitment to bicycle and pedestrian facilities
- Widening of congested arterial roads, and improving the rural county road network
- Bridge improvements

Increase the accessibility and mobility options available to people and for freight;

- Airport Access Road
- Establish a regional arterial network
- Maintain a regional cohesiveness and unity by requesting Federal funding for these specific corridor projects:
  - Springdale Highway 412 bypass
  - Bella Vista bypass
  - I-540 improvements
  - Western beltway
- Investigate innovative funding mechanisms, including toll roads

Protect and enhance the environment, promote energy conservation, and improve quality of life;

- Bicycle/pedestrian trails and sidewalk improvements in the region
- Improvements in signalizations and road widths will reduce stop and go traffic, and thus, gas consumption
- Consider Environmental Factors, both natural and cultural, as transportation projects are developed
- Encourage and explore all modes of transit alternatives

Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;

- Establish a regional arterial network, including improving east/west connections and new north/south arterials
- Airport Access Road
- Bicycle/pedestrian facilities
- I-540 improvements, including improvements to interchanges, improvements to existing grade separations, and widening the mainline
- Utilize ITS technologies to maximize infrastructure efficiency

Promote efficient system management and operation;

- Signalization improvements
- Utilize ITS technologies to maximize infrastructure efficiency
- Encourage and explore all modes of transit alternatives

Emphasize the preservation of the existing transportation system.

- Strong financial commitment to maintenance of existing roadways
- Upgrade and maintenance of existing bridges
- I-540 Improvements
- Improve the rural county road network

APPENDICES

APPENDIX A. Technical Advisory Committee (TAC) Involvement in the Planning Process

November 18, 2004

- Discuss the 2030 Northwest Arkansas Regional Transportation Plan Vision Statement with Goals and Objectives
- Discuss the Community Involvement Plan - Community Outreach Subcommittee formed
- 2015 Arterial Network - Introduced the idea that the Region should focus on a 2015 Arterial Network Plan to address specific priorities
- Discuss concepts and needs regarding the 2030 Network
- Discuss a time framework for the Plan development
- Discuss the Travel Demand Model - Not available until June 2006

January 20, 2005

- Discuss the Community Involvement Plan - draft public input survey
- Review of the Draft 2015 Arterial Network - The working map showed the existing four/five lane inventory and what needs to be five-laned by the year 2015
- Discuss concepts and needs regarding the 2030 Network - Broad, long-term goals

February 24, 2005

- Review the Draft 2015 Arterial Network - Specific “action items” were identified as crucial items to be addressed in the very short run
- Discuss concepts and needs regarding the 2030
- Approve the Public Comment Survey Form
- Discuss Time Framework for Community Involvement

March 24, 2005

- Review the 2015 Arterial Network
- Report from the 2030 Network Team - The Team stressed that the Plan needs to combine all agency plans to create an overall 2030 Plan
- Report from the Public Out Reach Subcommittee:
  - Public Opinion Survey
  - Public Input

April 28, 2005

- Report from Community Outreach Subcommittee - Two public meetings were held in April. More than 150 surveys had been received
- Review the 2015 Arterial Network - City officials and planners were asked to show on a map what roads they would like to see improved by 2015
- Discussion of the 2030 Network
  - I-540 is now functioning as an urban arterial
  - Hwy 265 might need to become the eastern bypass
  - McDonald County, MO is going to be the next boom area
  - Improve the roads leading to XNA
  - A western bypass needs to be discussed

June 9, 2005

Initial Thoughts on the I-540 Study:

- The study helps in creating a game plan
- Need immediate investment to give relief on the interchanges
- Need staging - do we want to start improvements on interchanges without ways to move traffic
- ROW on the interchanges is a big issue - cities can't afford to acquire

2030 Regional Transportation Plan Public Opinion Survey Written Comments - Many people shared the same opinion (whether for or against) on a variety of subjects, such as:

- Funding
- Improvements to I-540
- Toll roads
- Pedestrian/bicycle facilities
- Surveys will be accepted through June

Consider the following issues:

- Western Bypass - The group decided that this idea should be included in the plan
- Increase and improve ways to cross I-540 other than interchanges
- New interchanges

Discussion on Policy/Recommendations -

- Improved regional North/South Arterials on both sides of the urban area
- Parkway/Boulevards - Corridors be studied or suggested for improvement to parkway/boulevard cross-sections
- Improved East/West Connections across the urbanized area
- Other ideas - policies should be developed to include:
  - transit (light rail, bus, trolley)

- bicycle and pedestrian movement
- park and ride lots
- HIV lanes
- toll roads
- the location of housing in relation to employment, especially large employment centers

June 23, 2005

Summary of the transportation survey - over 500 surveys were completed and returned

Review 2015 and 2030 Network Plan/Recommendation from the 2030 Network Team

Discuss the Unconstrained Project List - The group was instructed to put all projects on the Unconstrained List and remove completed projects

Review Funding Marks and Discuss the Financially Constrained Plan - The funding categories were explained to the group as well as the funding estimates

Community Outreach Subcommittee - reported that the next public input meetings would be held on July 11 and July 12, 2005

July 28, 2005

I-540 Corridor Study - questions and comments

Results from the July Public input meetings - Survey and "gold coin toss"

Transportation Alternatives - discussion on alternatives to be included in the Plan - including passenger rail, ride sharing, buses

Review - 2030 Network; Arterial grid; I-540; Western bypass; Eastern parkway; Regional parkway and boulevard corridors. The group agreed that they wanted all of the above to be included in the Plan

Review Funding Marks and Discuss the Financially Constrained Plan

August 25, 2005

Discuss the Unconstrained List

Review the Summary of Recommendations by the 2030 Network Team

Review 2030 Network with Focus on Regional Arterials

Review Boulevard Designs

Time Frame to Develop the Constrained List

Review Funding Marks and Funding Categories

September 22, 2005

Review 2030 Network with Expanded Study Corridors

Development Time Frame

Goals and Objectives - Represent potential strategies on how to implement the Plan

Discuss the Unconstrained List

Constrained List

Functional Classification Maps - Maps need to be formally adopted by the TAC and Policy Committee

October 27, 2005

The TAC met to discuss the Constrained List. A motion was made and approved to send the Constrained List to public input meetings. Additionally, a subcommittee (TAC 10 Subcommittee) was formed to finalize the Constrained List

December 5 and December 12, 2005

The TAC 10 Subcommittee met and finalized the Constrained List, which will be presented to the public at future public input meetings

January 31, 2006

Review the Financially Constrained List

Discuss the Transportation Plan Document

February 7, 2006

The TAC met to recommend Amendment Six to the 2005-2007 TIP; review the transportation project Constrained List and forward to the Policy Committee for review and comment; review the 2030 Northwest Arkansas Regional Transportation Plan draft narrative

February 9, 2006

The Policy Committee met to approve Amendment Six to the 2005-2007 TIP; review the transportation project Constrained List; review the 2030 Northwest Arkansas Regional Transportation Plan draft narrative

February 27, 2006

The TAC Work Group met to review the Constrained List; discuss the 2030 Transportation Plan document; cross-sections to be included in the Plan; time frame for Plan completion

March 28, 2006

The Policy Committee and TAC met at a joint meeting to approve the Plan to go to the final public input session, April 4, 2006

April 20, 2006

The Policy Committee and the TAC met at a joint meeting to formally adopt the 2030 Northwest Arkansas Regional Transportation Plan, and to forward it to the appropriate Federal and Federal officials

2030 Network Team

Formed in January, 2005 - the function of this group was to begin to define the transportation network for the two-county region, by defining what the region wants and needs. The Team was also responsible for working on a 2015 Network for issues that need to be addressed as soon as possible

March 9, 2005

A list of questions was established that, after being answered, would help establish the network

June 23, 2005

Team Report and Recommendations

Other Staff and TAC Involvement

- April, 2005 - Staff and TAC members attended the Arkansas Transportation Planning Conference, presented by the Arkansas Highway and Transportation Department. This three-day conference featured a

session on MPO 101, conducted by John Humeston of the Federal Highway Administration

- May, 2005 - Staff and TAC members attended several public input sessions on the I-540 Improvements Study, sponsored by the study consultant

- June, 2005 - Staff and TAC members attended a public open house meeting on the I-540 Improvements Study, sponsored by the study consultant

- 2005 – Staff and TAC members attended a public open house meeting on the Hwy 62 widening project held at Garfield, sponsored by AHTD

- November, 2005 - Staff and TAC members attended the Light Rail Forum

- December, 2005 - Staff and TAC members attended a public input session held by AHTD on suggested Hwy 265 improvements

- December, 2005 - Staff participated in a public input session, which was conducted by AHTD concerning the proposed Siloam Springs bypass

APPENDIX B. Sample Surveys

Note: This sample survey is posted on the Internet at http://www.nwarpc.com/Transportation/short_survey_final.pdf

Year 2030 Regional Transportation Plan
Public Opinion Survey

The Northwest Arkansas Regional Planning Commission, the transportation planning organization in Northwest Arkansas is currently updating its Long Range Transportation Plan. The draft Plan under development will create a vision for transportation improvements through the year 2030.

Your opinion is very important. Since transportation impacts everyone in the region, feedback from citizens is needed. Please take a moment to answer the following questions and share your suggestions about transportation (circle each answer). Thank you.

A. On a scale of 1 to 5, with 1 being poor and 5 being excellent, please rank the following:

My commute time to work (length of time)	1	2	3	4	5
Reliability of commute (same length of time every day)	1	2	3	4	5
Other trips, such as shopping (length of time)	1	2	3	4	5
Traffic congestion on Northwest Arkansas roadways	1	2	3	4	5
Availability of transit in Northwest Arkansas	1	2	3	4	5
The safety of Northwest Arkansas roadways	1	2	3	4	5
Availability of sidewalks	1	2	3	4	5
Availability of off-road bicycle lanes	1	2	3	4	5
Availability of on-road bicycle lanes	1	2	3	4	5
Safety of on-road bicycle lanes	1	2	3	4	5
Traffic signals and signage	1	2	3	4	5
Northwest Arkansas efforts to improve transportation	1	2	3	4	5

B. On a scale of 1 to 5, with 1 being not important and 5 being very important, please rank the following transportation improvements:

Adding lanes to I-540	1	2	3	4	5
Adding interchanges to I-540	1	2	3	4	5
Improving I-540 interchanges	1	2	3	4	5
Adding overpasses to I-540	1	2	3	4	5
Building new roads	1	2	3	4	5
Improving road safety	1	2	3	4	5
Expanding the bus system	1	2	3	4	5
Adding lanes to other roadways	1	2	3	4	5
Completing a 4 and 5 lane regional grid network	1	2	3	4	5
Building a loop around the region	1	2	3	4	5
Providing transportation for people with disabilities	1	2	3	4	5
Providing sidewalks	1	2	3	4	5
Providing on-road bicycle lanes	1	2	3	4	5
Providing off-road bicycle lanes	1	2	3	4	5
Providing bicycle amenities (i.e. bike lockers/racks)	1	2	3	4	5
Developing rideshare/carpool programs	1	2	3	4	5
Planning/developing a passenger rail program	1	2	3	4	5
Using technology to improve congestion (Changeable highway message signs, signal coordination, etc.)	1	2	3	4	5

C. On a scale of 1 to 5, with 1 being unacceptable and 5 being acceptable, please rank the following strategies to improve transportation in Northwest Arkansas:

Status quo (no change to current progress)	1	2	3	4	5
Increase gas tax	1	2	3	4	5
Increase sales tax	1	2	3	4	5
Build toll roads	1	2	3	4	5
Increase public transportation	1	2	3	4	5
Establish a regional transportation agency (with taxing authority) that will make transportation decisions locally and will designate new funds to the region	1	2	3	4	5

D. Please list your three highest priorities for transportation improvements in Northwest Arkansas:

1._____

2._____

3._____

E. Please share any additional comments you may have:

_____

_____

_____

_____

_____

_____

_____

_____

Please tell us about yourself:

Where do you live?
Benton County
Washington County
_____County

How old are you?
_____10-20
_____21-45
_____46-55
_____56-65
_____Over 65

Zip code where you live? _____

Zip code where you work? _____

Are you licensed to drive a car?
Yes No

How many years have you lived in Northwest Arkansas?
_____Under 5
_____5-10
_____11-20
_____21-30
_____Over 30

Approximately how many miles do you live from I-540?
_____Under 5
_____5-10
_____11-20
_____21-30
_____Over 30

Do you have regular access to a motor vehicle for work and other types of trips?

_____Yes _____No

Thank you for taking the time to complete this survey.
Your opinion is very important to us.
Please fold and return survey to the address listed below or fax it to 479-751-7150.

For additional copies of this survey,
go to www.nwarpc.com or call 479-751-7125.

fold here

_____

_____

_____

place stamp here

Northwest Arkansas Regional Planning Commission
1311-A Clayton
Springdale, AR 72762

APPENDIX C. Environmental Justice Analysis Map

See: http://www.nwarpc.com/Maps/environmental_justice_36-46.pdf

APPENDIX D. Heritage Trail Plan

Northwest Arkansas Heritage Trail Plan

"A regional network of bicycle and pedestrian facilities that connects Northwest Arkansas citizens and visitors to our rich heritage, our recreational and cultural assets, a healthier lifestyle, and to each other."

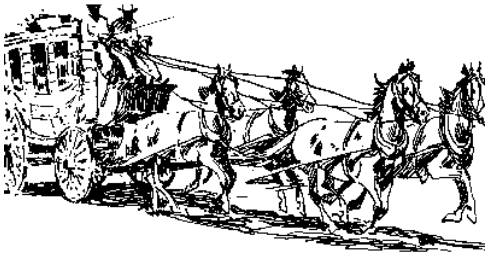
The Northwest Arkansas Heritage Trail Plan is part of the 2030 Northwest Arkansas Regional Transportation Plan.

Historic Background and Significance of the Regional Routes

Trail of Tears

The term "Trail of Tears" signifies the various routes used for the forced removal of five civilized Native American Indian tribes from their homelands in the east, to the Indian Territory, today's eastern Oklahoma. The removal took place from 1837 to 1839. At least three of the Cherokee removal parties traveled through Northwest Arkansas on the "State Road" that ran from Springfield to Fort Smith through Fayetteville. The road followed the general route of what would later be called the Telegraph Road, entering the Federal just north of the Pea Ridge Park and tracking southwest toward Fayetteville. The Cherokees turned west in Fayetteville, toward their final destination of Tahlequah, Oklahoma. Based on the diaries of party leaders we know some of the specific dates and camp locations of the traveling Cherokees. The Richard Taylor contingent camped at the Elk Horn Tavern site in today's Pea Ridge Military Park on March 18, 1839. Then according to a party leader's diary: "Traveled 15 miles to Cross Hollows, ate dinner at Homeslys, and came on 5 miles to Fitzgerald's". On March 21, 1839, the diary entry records "Thursday 21, cloudy and cool, passed through Fayetteville…got a mean meal at the Brick Tavern"

Hildebrand's contingent followed closely behind the Richard Taylor group. The Hildebrand group consisted of 88 wagons, 881 horses, and 1,312 Cherokee.



Butterfield Stage Coach Route

In 1858 John Butterfield began operating the longest stagecoach run in the history of the world. Butterfield's mail coaches ran from Tipton, Missouri to San Francisco, right through Northwest Arkansas. The mileage of the route was approximately 2,800 miles. Coaches were to run each way twice a week. Having 25 days to make each run, the coaches traveled day and night to meet this deadline. There were stage stops every 20 miles or so to change teams. The first westbound Butterfield Stage stopped at Callaghan's Station in present day Rogers on September 18, 1858, a Saturday morning. It then ran south through Cross Hollows on the way to Fitzgerald's Station in modern day Springdale (then Shiloh). The stage arrived in Fayetteville at 11:00 a.m. that Saturday morning and left at 10 minutes till noon on the way south toward the rugged Boston Mountains on the way to Van Buren and Fort Smith. Of the route from Fayetteville to Fort Smith it was said by one of the first riders, "I might say the road was steep, rugged, jagged, rough, and mountainous and then wish for more impressive words". This first westbound stage arrived in San Francisco on October 10, 1858, one day ahead of schedule. The Butterfield Stagecoach ran from 1858 till 1861. It is said that Texas and Arkansas Rebels confiscated many of the coaches and horses for the war effort.

Civil War Troop Movements

On February 13, 1862 the Missouri State Guard under General Price retreated from Springfield, Missouri due to an unexpected winter campaign initiated by General Curtis of the Union Army. In the midst of fierce winter storms, 8000 Confederate troops with an almost endless wagon train trudged down the Telegraph Road to join their rebel counterparts in Arkansas. The Union Army gave a relentless pursuit resulting in the first Civil War battle in Arkansas on February 17, 1862 at Little Sugar Creek on the Telegraph Road. The Confederate troops finally made it to Cross Hollows for their first night's rest

since leaving Springfield. The Arkansas Confederate commander at Camp Cross Hollows, General McCulloch, advised a further retreat to the Boston Mountains near Strickler in southern Washington County. Here they were joined by General Van Dorn's troops from Van Buren and amassed an army of approximately 16,000 men, the largest concentration of Confederate troops west of the Mississippi. The Union Army of the Southwest, which consisted of approximately 10,500 men, had settled into a defensive position along Little Sugar Creek and McKissick Creek in northern Benton County. Van Dorn ordered his men to move against the Union Army on March 4th, 1862. Van Dorn's army, along with its massive supply train, marched up the Telegraph Road to fierce winter storm. Some of the cold, weary, Confederate troops fell out along the way and perished in the elements. Most continued to struggle along to meet Fayetteville and then up the Elm Springs Road to Bentonville amidst another their fate at one of the largest Civil War battles west of the Mississippi, the Battle of Pea Ridge.

The routes associated with these three historic events make up the primary network of the Northwest Arkansas Heritage Trail Plan.

Plan Overview:

Washington and Benton Counties offer a unique opportunity for recreational and non-automotive travel throughout the area. Our region includes national forests, Federal parks, recreational areas, cultural assets, and significant historic sites.

The NWA Heritage Trail Plan is becoming a regional network of bicycle and pedestrian facilities that connects NW Arkansas citizens and visitors to our rich heritage, our recreational and cultural assets, a healthier lifestyle, and to each other.

By implementing a region-wide network of bike and pedestrian facilities, the public Hhas access to healthy and safe alternatives to automotive travel. This system also provides opportunities to experience the historic and natural environments of the area. As a result, the overall quality of life, economy, and health of the region is being enhanced.

Travel by bicycle and walking are becoming increasingly important to American lifestyles. Facilities to encourage these activities must be attractive, user friendly, and safe.

Scope:

This plan describes a regional network for proposed bicycle and pedestrian facilities within the two counties of Northwest Arkansas. The entire network can be seen, at a minimum, as a bicycle route with improvements, providing safety

for bicyclists. Within the more populated areas, where pedestrian traffic is anticipated, the improvements also accommodate safe pedestrian travel. This regional system is designed to connect the emerging master trail plans of the region's cities. By tying into these local trails plans and including strategic spurs, the NWA Heritage Trail Plan provides linkage to recreational sites, parks, historic sites, museums, schools, work centers and retail shopping.

Nearly the entire regional trail network coincides with the existing road network. Some exceptions are a greenway corridor from Bentonville to Rogers, and a connection that would go through Lake Fayetteville Park. The Heritage Trail Plan depends primarily on existing right of ways in order to achieve immediate continuity. Off road facilities will be developed by the involved cities as part of their individual master trail plans.

As cities adopt their own master trail plan that incorporates the Heritage Trail Plan, those plans will be recognized as part of the regional plan.

The Butterfield Stagecoach Route and prominent Civil War routes are the major components of the Heritage Trail Plan. These routes are being marked with unique signage and promoted with an informational brochure. It can also be promoted as an auto tour as soon as the signs are in place.

As the Trail of Tears routes and additional Civil War routes are developed, they will be amended into the Plan and marked with unique signage.

Goals:

- Develop a regional network of bicycle and pedestrian facilities utilizing existing right of ways and public lands thus linking the master trail plans of the region's cities.
- Create travel and recreational opportunities by providing access to the region's attractions.
- Enhance economic development opportunities through the promotion of heritage-based tourism.
- Promote awareness among local residents of the region's abundant resources for recreational, historic, and cultural interests.
- Promote the health benefits associated with outdoor activities.
- Work with local jurisdictions and AHTD to promote discussion of new public funding sources to support the development and continuing maintenance of the regional trail network.

Objectives:

- Improve existing facilities to make them more accessible, usable, and enjoyable.
  - Improve maintenance
  - Promote volunteerism
  - Clear, concise and unified signage
- Develop new facilities to provide safe travel for bicycles and pedestrians.
  - Link to existing trails
  - Create loop trails
  - Provide connections between communities, parks, and other key destinations.
  - Establish desired design guidelines for access, safety, and enjoyment
- Ensure that individual trail plans and the NWA Heritage Trail Plan are consistent with each other.
- Promote shared use of resources by using public lands in the best manner possible
  - Shared transportation corridors
  - Multiple-use paths
  - Facilities within existing public right-of-way
- Provide bicycle and pedestrian access to scenic vistas, historic sites, points of interest, and support facilities.
- Provide for viewing stations, rest areas, turnouts, and interpretative signs.
- Use existing utility ROW (right-of-way), street ROW, abandoned rail lines, etc. to maximize ease of construction and lower costs.
- Build public awareness and support for bicycle and pedestrian facilities.
  - Proper road signs
  - Create descriptive brochures
  - Posting maps and trailhead bulletin boards
  - Publishing individual route guides
  - Planning promotional events
- Pursue Federal, Federal and private grants and resources to assist local jurisdictions in implementing the plan.
  - Grants-in-aid project
  - Federal transportation bill
  - Donations/trail sponsors
  - Adopt-a-trail programs and volunteer workday
- Incorporate bicycle and pedestrian routes into regional tourism marketing and promotion.
  - Chambers of Commerce
  - Trade shows
  - Convention and visitors bureaus
  - Museums and schools
- Promote safety and education programs for bicyclists, pedestrians, and motorists.

Bicycle and Pedestrian Facility Cross-Sections:

There is not a single cross-section that fits all the needs of the NWA Heritage Trail Plan. Currently, parts of the Plan range from unpaved county roads to major arterials in central commercial districts. Also, many of the jurisdictions will be developing their own master trail plan and the Heritage Trail Plan should work in conjunction with the cities' own plans. In considering cross-sections, it is good to remember the purpose of the Plan, which is to facilitate bicycle and pedestrian traffic in the safest and most user-friendly way possible. Also, any transportation improvement that utilizes Federal money must meet ASHTO guidelines.

On-Road Bicycle Facilities:

- Bicycle lanes on streets with curbs should be at least 5 feet in width.
- On rural roads with no curbs, an 8-foot shoulder makes an ideal bike route and also serves the needs of motorists with mechanical problems to pull completely off the road.
- On rural roads where an 8-foot shoulder is not possible a 5-foot shoulder should be the minimum considered for bicycle safety.

Pedestrian Facilities:

- Sidewalks should be at least 6 foot wide.

Multiuse Facilities: (parallel to the roadway or off road)

- A multiuse facility shared by bicycles and pedestrians should be at least 10 feet wide.

Special Case Accommodation for Bicycles:

- When a multi-use facility parallels a road, or when ROW problems make a 5 foot bike lane impossible, accommodation should still be made for bicycles in the road way. A minimum consideration for bicycle safety is to have a road width where a motorist can safely pass a bicycle without having to cross into the on-coming traffic lane. This Plan specifically recommends at least a 14-foot outside lane for minimum bicycle safety.

How to Use This Plan:

1. As a Guide for Trail Planning and Development:

This plan shows the regional connections necessary for connectivity between the individual trial plans of the region's cities.

2. As Justification For Funding Requests:

Administrators of grant-in-aid programs, foundations, philanthropic organizations and other funding sources look favorably on projects that are part of a published and adopted regional plan. Cities and trail advocacy groups should therefore use the plan as they seek support and assistance in their trail development and improvement efforts.

Map Explanation

The Butterfield Stage Coach Route and the Civil War Route provide the central aspect of the Plan by providing a regional connection for the urbanized area.

The Spur Routes provide access to additional points of interest and recreational opportunities.

The Rural Bicycle Loops indicate areas that are already popular with bicyclists and provide additional access to points of interest.

Northwest Arkansas Heritage Trail Plan

Points of Interest Along The Route

Butterfield Stage Coach Stops
Callaghan's Station, Rogers
Fitzgerald's Station, Springdale
Old Courthouse, Fayetteville
Parks Station, south of Hogeye

Trail of Tears Sites
Elkhorn Tavern
Cross Hollows
Springdale Marker
Fayetteville Marker

Civil War Sites
Pea Ridge National Military Park
Prairie Grove State Park
Pott's Hill
Cross Hollows
Dunigan's Farm
Camp Mudtown
Camp Elm Springs
Camp Osage Prairie
Camp Stephens
McKissick's Springs – Centerton
Eagle Hotel – Bentonville
Confederate Monument – Bentonville
Ben McCulloch Monument – City of Pea Ridge
Headquarters House – Fayetteville
Confederate Cemetery- Fayetteville
National Cemetery - Fayetteville

Downtowns
Bentonville
Rogers
Springdale
Fayetteville
Elm Springs
Cave Springs
Centerton
Pea Ridge
Avoca
Goshen
Greenland
West Fork
Farmington
Winslow

Recreational Areas
Lake Wedington
Lake Sequoyah
Prairie Creek
Horseshoe Bend
Hickory Creek
Beaver Lake State Park
Hobbs State Management Area
Devil's Den State Park

Museums
Peel House
Shiloh Museum
Rogers Historical Museum
U of A Museum
Lowell Historical Museum

Trail Systems
Bentonville Downtown
Lake Bella Vista
Lake Fayetteville
Fayetteville Historic Walk

Area Attractions
War Eagle Mill
Jones Center for Families
Rodeo of the Ozarks

Colleges
U of A
NWA Community College
NWA Technical Institute

APPENDIX E. Transportation Demand Management

Transportation Demand Management Strategies presented by the Victoria Transport Policy Institute

These TDM strategies are divided into major categories according to how they impact travel.

1. Improved Transport Options

Address Security Concerns	Strategies for improving personal security.
Alternative Work Schedules	Flextime, Compressed Work Week (CWW), and staggered shifts.
Bus Rapid Transit	Bus system design features that significantly improve service quality and cost efficiency.
Cycling Improvements	Strategies for improving bicycle transport.
Bike/Transit Integration	Ways to integrate bicycling and public transit.
Carsharing	Vehicle rental services that substitute for private vehicle ownership.
Flextime	Flexible daily work schedules.
Guaranteed Ride Home	An occasional subsidized ride home for commuters who use alternative modes.
Rail Transit	Rail Transit systems are designed to provide convenient local service on busy urban corridors.
Nonmotorized Planning	Planning for walking, cycling, and small-wheeled transport.
Nonmotorized Facility Management	Best practices for managing and maintaining nonmotorized facilities such as walkways, sidewalks and paths.
Park & Ride	Programs to provide convenient parking at transit and rideshare stations.
Pedestrian Improvements	Strategies for improving walking conditions.
Ridesharing	Strategies for encouraging carpooling and vanpooling.
Shuttle Services	Shuttle buses, jitneys and free transit zones.
Small Wheeled Transport	Accommodating skates, scooters, handcarts and utility wagons.
Taxi Service Improvements	Strategies for improving taxi services.
Telework (Telecommuting, Distance-Learning, Tele-shopping, etc.)	Use of telecommunications as a substitute for physical travel.

Traffic Calming	Roadway designs that reduce vehicle traffic speeds and volumes.
Transit Improvements	Strategies for improving public transit services.
Universal Design (Barrier Free Transport Planning)	Transportation systems that accommodate all users, including people with disabilities and other special needs

2. Incentives To Use Alternative Modes and Reduce Driving

Walking And Cycling Encouragement	Strategies for encouraging nonmotorized transportation.
Commuter Financial Incentives	Parking cash out, travel allowance, transit and rideshare benefits.
Congestion Pricing	Variable road pricing used to reduce peak-period vehicle trips.
Distance-Based Pricing	Various fees and taxes based on a vehicle's mileage.
Fuel Taxes	Increasing fuel taxes to achieve TDM objectives.
HOV (High Occupant Vehicle) Priority	Strategies that give transit and rideshare vehicles priority over other traffic.
Parking Pricing	Charging motorists directly for parking.
Pay-As-You-Drive Vehicle Insurance	Converting vehicle insurance premiums into distance-based fees.
Road Pricing	Congestion pricing, value pricing, road tolls and HOT lanes.
Road Space Reallocation	Roadway design and management practices that favor efficient modes.
Speed Reductions	Strategies to reduce traffic speeds.
Street Reclaiming	Strategies for encouraging community interaction on neighborhood streets.
Transit Encouragement	Strategies for encouraging public transit use.
Vehicle Use Restrictions	Strategies to limit vehicle traffic at a particular time and place.

3. Parking and Land Use Management

Bicycle Parking	Bicycle racks, bicycle lockers and changing facilities.
Car-Free Districts and Pedestrianized Streets	Designing special areas and times for minimal automobile use.
Strong Commercial Centers	Creating vibrant downtowns, business districts, urban villages and other accessible, mixed-use activity centers.

Connectivity	Creating More Connected Roadway and Pathway Networks.
Land Use Density and Clustering	Locating common destinations close together can increase land use accessibility and transportation diversity.
Location Efficient Development	Development that maximizes multi-modal accessibility.
New Urbanism	Accessible, livable community design.
Parking Cost, Pricing and Revenue Calculator	Excel spreadsheet calculates parking facility costs, prices and revenue.
Parking Management	Strategies for more efficient use of parking.
Parking Pricing	Charging motorists directly for parking.
Parking Solutions	Comprehensive menu of solutions to parking problems.
Parking Evaluation	Guidelines for evaluating parking problems and solutions.
Shared Parking	Sharing parking facilities among multiple users.
Smart Growth	Land use practices to create more efficient and livable communities.
Smart Growth Reforms	Policy and planning reforms that encourage Smart Growth.
Streetscape Improvements	This chapter describes various ways to improve urban streetscapes.
Transit Oriented Development (TOD)	Using transit stations as a catalyst for creating livable communities.

4. Sustainable Transportation

Transportation Demand Management can help create a more sustainable transportation TDM reflects sustainability principles of integration and resource efficiency. TDM supports specific sustainability objectives, including resource conservation, equity, environmental protection, efficient land use, and public involvement. Sustainable transportation tends to rely on TDM as a primary solution to transportation problems.

5. Conclusions on Transportation Demand Management

As an urban area matures the benefits of Transportation Demand Management (TDM) increase relative to conventional road building activities. The Victoria Transport Policy Institute Transportation state in its' research that Many transport problems are virtually unsolvable without some Transportation Demand Management (TDM). The Institute further states:

> Conventional solutions, such as increasing roadway capacity or improving vehicle design, often reduce one problem but exacerbate others, particularly

if they increase total vehicle travel. When all costs and benefits are considered, an integrated TDM program that includes an appropriate set of complementary strategies is often the most cost effective way to improve transportation.

At the margin (i.e., relative to current travel patterns), many consumers would prefer to drive somewhat less than they do now, and use alternatives more. Even people who enjoy driving are sometimes willing to use alternatives, particularly if there is a comfortable, convenient, affordable alternative to driving on congested roadways. TDM does not require that motorists completely give up their cars; rather, it requires modest changes under certain conditions, often resulting from positive incentives which rewards people who change modes, while those who drive are no worse off.

Roadway investments have declining marginal benefits. Although roadway transportation is important for personal accessibility and community development, once a basic roadway system exists in a region, there are modest benefits from increasing capacity, and substantial costs if roadway projects lead to automobile dependent transportation and land use patterns. Put another way, under many circumstances, there are more benefits from increasing transportation system efficiency and diversity than from increasing roadway system capacity.

Motorists can travel to most destinations with reasonable convenience, economy and safety, and quickly *except under urban-peak conditions*. The major transport problems in most communities are traffic congestion, facility costs, traffic impacts on community livability, and limited mobility for people who are transportation disadvantaged - all problems TDM can help address.

APPENDIX F. Unconstrained List of Transportation Projects from Cities and Counties

APPENDIX G. Public Prioritizing of Road Projects

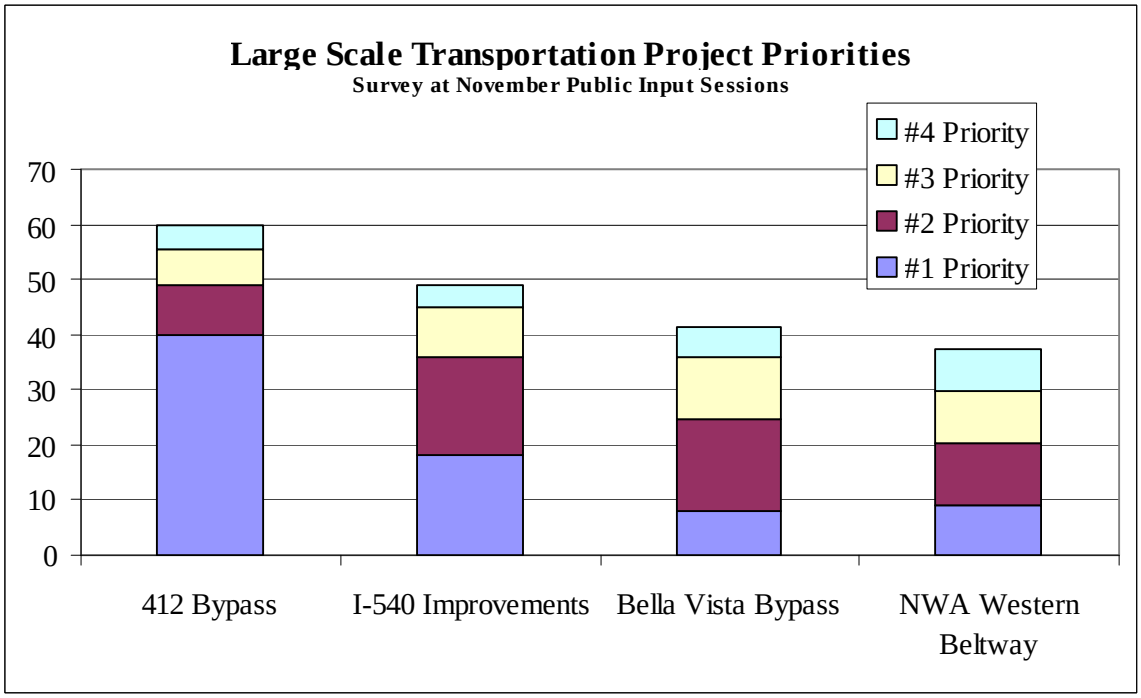
1. State Highway Projects Ranked (STP)

Project No.	Washington County Nov. 7,2005	Benton County Nov. 10	Total	Highway No.	Road Project
32	16	27	43	412	Hwy. 412 Springdale Bypass: Hwy. 412 West -I-540
17	5	13	18	71B	Hwy. 71B /Hwy. 264 Intersection Improvement (Lowell)
1	4	13	17	12	Hwy. 71B-NWA Regional Airport (XNA)
28	2	14	16	264	I-540 - Hwy. 112
30	10	4	14	265	Hwy. 412-South City Limits (Springdale)
14	2	9	11	62B	Hwy. 62B/Hwy. 12 Intersection Improvements (Rogers)
27	5	5	10	264	Hwy. 71B - Old Wire Rd. (Hwy. 264) (Springdale)
25	6	3	9	112	Howard Nickell-Hwy. 412
22	5	3	8	112	Hwy. 180 (6th St.)-Garland Ave. (Fayetteville)
18	1	6	7	71B	8th-Dixieland Road Minor Widening (Rogers)
19	2	5	7	94	Hwy. 71-Old Wire Road (Rogers)
20	1	6	7	102	Hwy. 279N-Greenhouse Rd.
23	4	3	7	112	North Street-I-540 (Fayetteville)
3	3	3	6	16	Happy Hollow-Stonebridge Road (Fayetteville)
26	3	3	6	112	Hwy. 412-Hwy. 12
4	1	4	5	16	Stonebridge Road - Middlefork Bridge
21	2	3	5	102B	Hwy. 102-Hwy. 72 Minor Widening (Centerton)
31	0	5	5	279 South	Hwy. 102 - Hwy. 12 (Centerton)
33	2	3	5	412	Hwy. 412 Improvements (Siloam Springs)
24	4	0	4	112	I-540-Howard Nickell Road
2	2	1	3	16	South College Ave.-Happy Hollow (15th St.)
6	1	1	2	16	Wedington Woods-Washington Co. Line (Rehab/Minor Widen)
7	1	1	2	16	Washington Co. Line-West (Rehab/Minor Widening)
11	2	0	2	59	Hwy. 45-South (Selected Sections) (Rehab./Minor Widening)
12	1	1	2	62	Prairie Grove Bypass
13	1	1	2	62	Hwy. 127-Gateway
29	1	1	2	264	East Main St. - Hwy. 43 (Siloam Springs)
5	0	1	1	16	Middlefork Bridge - Highway 74
9	1	0	1	45	Hwy. 265-Oakland/Zion Road (Fayetteville/Goshen)
10	0	1	1	45	Oakland/Zion Road-White River
15	0	1	1	62/94/102	Intersection Improvements (2nd and Madison) (Rogers)
8	0	0	0	43	Dawn Hill Rd. - City Limits (Siloam Springs)
16	0	0	0	72	Hwy. 94 - Mariano Rd. (Pea Ridge)

2. City Street Projects Ranked (STP-U)

Project No.	Washington County Nov. 7,2005	Benton County Nov. 10, 2005	Total	Project Name	Jurisdiction
29	8	12	20	Apple Blossom (Old Wire Road to west city limit)	Lowell-Benton Co.
15	8	9	17	Van Ashe Drive (Garland Ave. to Steel Street)	Fayetteville
13	10	5	15	Rupple Road (6th Street to Howard Nickell)	Fayetteville
50	13	1	14	Olive Street/28th Street Overpass	Rogers/Bentonville
14	6	5	11	Howard Nickell Road/Van Ashe (Rupple Rd. to Garland)	Fayetteville
47	2	9	11	56th Street (Great Springs Blvd. to Elm Springs Road)	Springdale
27	2	8	10	Bellview (AR 264 to north city limit)	Lowell
26	4	4	8	Monroe extension (Railroad to Brandon Street)	Lowell
38	7	1	8	Pleasant Grove Road Overpass	Rogers
42	8	0	8	South 26th Street (AR 94 to Pleasant Grove Road)	Rogers
48	2	6	8	Mountain Road (Monitor Road to AR 264)	Springdale
23	3	4	7	Great House Springs Road (I-540 to west city limits)	Johnson
25	3	4	7	Main Drive Widening (Wilkerson to east city limits)	Johnson
28	2	5	7	Springcreek (AR 264 to south city limit)	Lowell
37	7	0	7	Perry Road (Interchange to Champions Drive)	Rogers
40	7	0	7	Pleasant Grove Road (I-540 to Bellview)	Rogers
49	5	2	7	Old Wire Road (AR 264 to Monroe extension)	Regional
4	1	5	6	SW "I" Street (AR 102 to AR 112)	Bentonville
41	6	0	6	Pleasant Grove Road (71B to First Street)	Rogers
43	6	0	6	Horsebarn Road (Stonybrook Road to north city limit)	Rogers
2	2	3	5	Moberly Lane (Southeast 28th Street to Walton Blvd.)	Bentonville
18	1	3	4	W. Holland, N. Holland & W. Cowan (AR 12 to AR 12)	Highfill
39	4	0	4	South First Street (Olrich to Pleasant Grove Road)	Rogers
5	1	2	3	E. Central (AR 72 to East City Limits)	Bentonville
17	1	2	3	Pinalto Road & Hutchens Road (AR 264 AR 112)	Highfill
1	1	1	2	SW-A Street (71B to Central Avenue)	Bentonville
6	2	0	2	Bella Vista Road (NW 12th to NW 5th)	Bentonville
12	1	1	2	Greenhouse Road (AR 102 to AR 12)	CEN-Bville-Benton Co
24	0	2	2	Wilkerson Street north of Main (Main to Hewitt)	Johnson
44	2	0	2	Pleasant Grove Road (Belview to Champions Road)	Rogers
3	1	0	1	Water Tower Road (East Central to AR 102)	Bentonville
8	1	0	1	Kimmel/Fish Hatchery (Greenhouse Road to AR 279 S)	Centerton
16	0	1	1	Wilson Street (AR 265 to AR 71B)	Greenland
19	1	0	1	Morrow Road (N. Holland to Pinalto)	Highfill
32	1	0	1	Greer (AR 72 to Lee Town Road)	Pea Ridge
35	0	1	1	Parks Street/IllinoisChapel Road (AR 62 to city limit)	Prairie Grove
51	1	0	1	Other	Other
7	0	0	0	NW 5th Street (Bella Vista Road to NW-A)	Bentonville
9	0	0	0	Bush/LC Hickman (AR 279 South to AR 102)	Centerton
10	0	0	0	Seba Road (AR 102 B to 279 N.)	CEN-Benton Co
11	0	0	0	Gamble/Walters (Bliss to AR 72)	CEN-Benton Co
20	0	0	0	Duke Hill (N. Holland to Pinalto)	Highfill
21	0	0	0	Armstrong Cemetery (AR 12 to W. Cowan)	Highfill
22	0	0	0	Wilkerson Street south of Main (Clear Creek to Main Driv	Johnson
30	0	0	0	Weston Street (AR 94 to AR 72)	Pea Ridge
31	0	0	0	Green St (AR 94 to AR 72)	Pea Ridge
33	0	0	0	Lee Town (AR 94 to AR 72)	Pea Ridge
34	0	0	0	Patton/Hazelton (Davis St. to Mariano Rd.)	Pea Ridge
36	0	0	0	Hogeye Road (AR 62 to city limit)	Prairie Grove
45	0	0	0	Dogwood Road (Tulsa Street to W. Jefferson)	Siloam Springs
46	0	0	0	Tahlequah Road (County Club to Madison)	Siloam Springs

3. Large Scale Projects Ranked



APPENDIX H. 2005 – 2007 Transportation Improvement Program (TIP)

F. APPENDIX I. Bridges

Bridges Qualifying for Bridge Replacement Funds

Bridge No.	Roadway	County	Feature Intersected
17349	CO RD 67 ZONE I	Washington	ILLINOIS RIVER
17367	CO RD 195/HARVEY OWL	Washington	WEST FORK WHITE RIVER
10631	CO RD 196 ZONE L	Benton	ILLINOIS RIVER
01705	Hwy 59	Benton	CHALYBEATE CREEK
01703	Hwy 59	Benton	KCS RR & BUTLER CREEK
01704	Hwy 59	Benton	OZARK LAKE
02849	Hwy 72	Benton	LITTLE SUGAR CR
10593	CO RD 3 ZONE L	Benton	ILLINOIS RIVER
10591	CO RD 2 ZONE L	Benton	ILLINOIS RIVER
17320	CO RD J 35	Washington	W FORK WHITE RIVER
02497	Hwy 16	Benton	ILLINOIS RIVER
17807	CO RD 98	Benton	WAR EAGLE CREEK
01701	CO RD 1782	Benton	WILDCAT CREEK
10600	CO RD 21-O	Benton	SPAVINAW CREEK
10666	CO RD C 700	Benton	LIMEKILN CREEK
20294	EVENING STAR RD	Benton	OSAGE CREEK
02065	Hwy 62	Washington	MUDDY FORK RIVER
10622	CO RD 71 ZONE K	Benton	OSAGE CREEK
17806	CO RD 8	Benton	FLINT CREEK
18795	AUBREY LONG RD/CR	Benton	EAST FLINT CREEK
17385	GEORGE ANDERSON RD	Washington	CLEAR CREEK
18577	CO RD R 24	Benton	COON CREEK
19023	RED BIRD LANE	Benton	BUTLER CREEK
03072	Hwy 43	Benton	FLINT CREEK
17323	CO RD 38-A	Washington	W F WHITE RIVER
10670	CO RD 831-G	Benton	CREEK
18394	DOUBLE SPGS RD	Washington	FARMINGTON BRANCH
10615	CO RD 60 ZONE E	Benton	PUPPY CREEK
10626	CO RD 103	Benton	CREEK
02930	Hwy 59	Washington	BALLARD CREEK
02996	Hwy 59	Benton	FLINT CREEK
17319	MCKNIGHT ST	Washington	CREEK
10618	CO RD 67 ZONE C	Benton	LIMEKILN CREEK
19529	SO GARLAND STREET	Washington	TOWN CREEK
18572	CO RD E 60	Benton	SPRINGCREEK
19521	WEST WATER STREET	Washington	DITCH
17339	CO RD F 62	Washington	ILLINOIS RIVER
19864	CO RD 64/ STONEWELL R	Washington	MUDDY FK ILLINOIS
17381	CO RD 448 ZONE H	Washington	BUSH CREEK
17324	CO RD 39 ZONE J	Washington	WF WHITE RIVER
19916	COUNTRY CLUB ROAD	Benton	SAGER CREEK
01999	Hwy 59	Benton	WOLF CREEK

17307	CO RD H 15	Washington	BALLARD CREEK
19653	LAKE ATALANTA ROAD	Benton	SO FK OF PRAIRIE CREEK
17334	STOKENBURY RD	Washington	CREEK
20706	N HORSEBARN RD	Benton	BRANCH OSAGE CREEK
19600	SO MCKNIGHT STREET	Washington	BRANCH
19861	CO RD 8	Washington	CREEK
18681	CO RD 877-E	Washington	HAMSTRING CREEK
17325	CO RD 44 ZONE B	Washington	WHITE RIVER
17332	DEAD HORSE MTN	Washington	W FORK OF WHITE RIVER
10664	CO RD C 700	Benton	WINTON SPRINGS CR
20295	N. 56TH ST.	Benton	SPRING CREEK
10637	S 26TH ST	Benton	OSAGE CREEK
18324	DOUBLE SPRINGS RD	Washington	GOOSE CREEK
17805	CO RD 18	Benton	SO PRONG SPAVINAW CR
18814	CO RD 285 - I	Washington	COVE CREEK
10663	CO RD 615-D	Benton	HICKORY CREEK
17353	CO RD 70	Washington	BLUE SPRINGS PARK RD
10638	CO RD 279-J	Benton	LITTLE OSAGE CREEK
01997	Hwy 12	Benton	LITTLE FLINT
21190	CO RD 8-I	Washington	MOORE CREEK
17300	CO RD I 8	Washington	LURCH CREEK
21481	CO RD 01214	Benton	HONEY CREEK
20214	CO RD 842-K	Washington	HAMSTRING CREEK
17368	CO RD 214-I	Washington	ILLINOIS RIVER
19547	S JOHNSON ST.	Washington	DITCH
04196	Hwy 264	Benton	LITTLE OSAGE CREEK
17298	CO RD 8 ZONE I	Washington	CREEK
17302	CO RD 9 - G	Washington	CINCINNATI CREEK
17338	CO RD 62 ZONE F	Washington	ILLINOIS RIV REL
02064	Hwy 62	Washington	BOB KIDD CREEK
18321	CO RD 669	Washington	BEATTY BRANCH
18332	CO RD 43	Washington	GREASY CREEK
M1057	Hwy 59	Benton	SPRING BRANCH
01563	Hwy 62	Washington	MOORE CREEK
01940	MAPLE STREET	Washington	FRISCO RAILROAD
B1423	Hwy 71	Washington	BARNETT CREEK
18886	CO RD 25	Washington	WEDINGTON CREEK
17356	CO RD 78	Washington	MOORE CREEK
18568	CO RD 1185/D; WOODHAV	Benton	CREEK
02538	Hwy 94	Benton	LITTLE SUGAR CREEK
M2202	Hwy 170	Washington	LITTLE RED RIVER
20308	CO RD 833 - G	Benton	LITTLE SUGAR CREEK
17316	CO RD 30 ZONE A	Washington	DYE CREEK
18862	CO RD 45 ZONE A	Washington	LONDON CREEK
01785	CO RD 1782	Benton	OSAGE CREEK
20179	CO RD 98 -F/DAUGHERTY	Washington	MUDDY FORK
18320	CO RD 84	Washington	CLABBER CREEK

03242	Hwy 74	Washington	WHITE RIVER
18669	CO RD 302-B	Washington	CREEK
03636	Hwy 12	Benton	BEAVER LAKE
02879	Hwy 12	Benton	FLINT CREEK
17390	CO RD 623 ZONE F	Washington	ILLINOIS RIVER
17405	CO RD 848,ZONE K	Washington	ILLINOIS RIVER
M3119	Hwy 180	Washington	SUBLET CREEK
19866	CO RD 124-A	Washington	MIDDLE FK WHITE RIV
20529	CO RD 6-G	Washington	WEDINGTON CREEK
10647	CO RD 405-P	Benton	BEATY CREEK

Bridges Qualifying for Bridge Rehabilitation Funds

Bridge No.	Roadway	County	Feature Intersected
03243	Hwy 74	Washington	TUTTLE CREEK
20710	SHELL RD.	Benton	CREEK
19020	WEST UNIVERSITY ST	Benton	SAGER CREEK
17343	CO RD 63 ZONE J	Washington	CREEK
19524	EAST HUNTSVILLE RO	Washington	DITCH
20887	CO RD 61-E	Benton	PUPPY CREEK
M2229	Hwy 180	Washington	SKULL CREEK
17335	CO RD 60	Washington	BRUSH CREEK
19863	CO RD 43	Washington	CREEK
17380	CO RD 368 ZONE C	Washington	BRUSH CREEK
19748	CO RD 45-A	Washington	PARKER BRANCH
17411	PUMP STATION RD.	Washington	SPRING CREEK
03019	Hwy 43	Benton	BEATY CREEK
03018	Hwy 43	Benton	TOWN CREEK
M3230	Hwy 340	Benton	TANYARD CREEK
03266	Hwy 102	Benton	DRY FORK BRANCH
M1096	Hwy 62	Benton	DITCH
21661	CO RD 525	Benton	SPAVINAW CREEK
18917	CO RD 80 - B	Benton	LITTLE SUGAR CREEK
M1256	MAIN STREET	Benton	SAGER CREEK
10643	CO RD 373 ZONE Q	Benton	COLUMBIA HOLLOW CREEK
19520	E. FIRST STREET IN	Washington	CREEK
19977	SYCAMORE ST.	Washington	SCULL CREEK
20653	Hwy 220	Washington	ELLIS CREEK
19523	LAKE SEQUOYAH DRIV	Washington	LAKE SEQUOYAH
17297	CO RD 8 ZONE I	Washington	CREEK
19723	E PATTERSON ST	Benton	BUTLER CREEK
18330	CO RD 43	Washington	MIDDLE FORK WHITE RIV
19542	E. HUNTSVILLE STRE	Washington	SPRING CREEK
03051	Hwy 59	Benton	U.S. 412-SEC 1
03743	Hwy 59	Benton	ILLINOIS RIVER

20747	CO RD 124	Washington	M F WHITE RIVER
M3652	Hwy 72	Benton	SPRING BRANCH
17330	CO RD 47 ZONE A	Washington	DRY CREEK
17322	CO RD 37	Washington	CREEK
03267	Hwy 170	Washington	LEE CREEK
A1425	Hwy 71	Washington	DYE CREEK
03974	Hwy 62	Benton	SUGAR CREEK
17800	CO RD 9	Benton	OSAGE CREEK
10645	CO RD 376 ZONE Q	Benton	WOLF CREEK

APPENDIX J. Functional Class Map